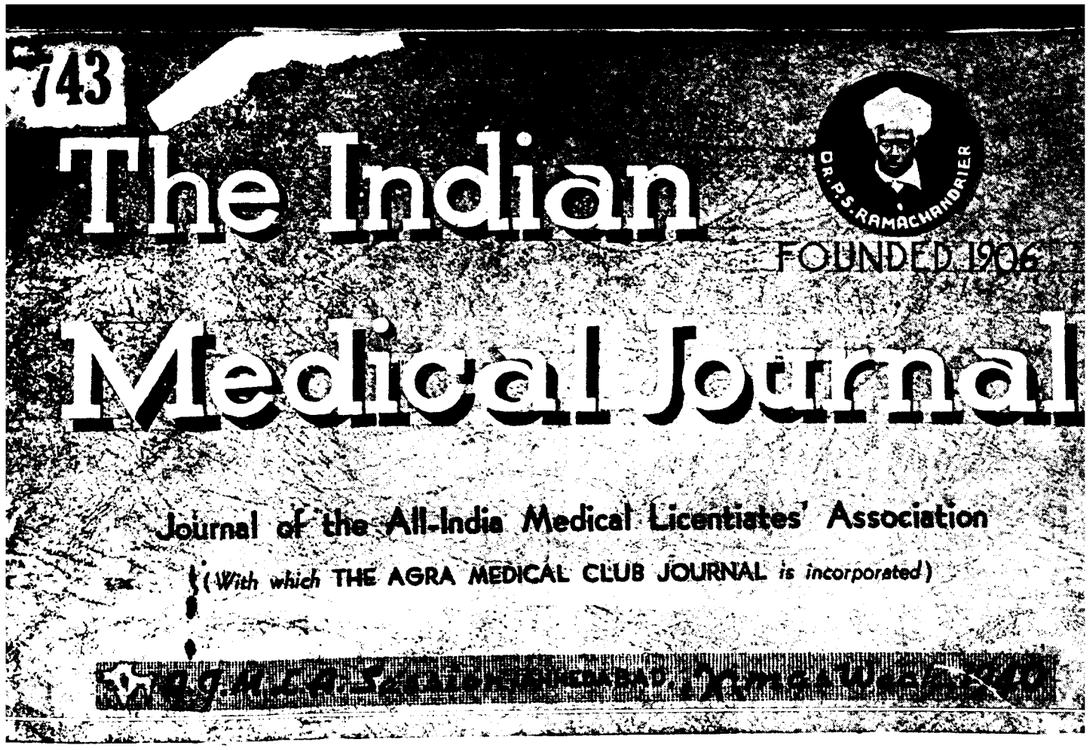
Indian Medical Journal

May 1940



The Indian Medical Journal

FOUNDED 1906

Journal of the All-India Medical Licentiates' Association

(With which THE AGRA MEDICAL CLUB JOURNAL is incorporated)

Vol. 34. No. 5 May, 1940

CONTENTS

WITH MEDICO-POLITICAL SUPPLEMENT

Annual Subscription: INDIAN Rs. 6 FOREIGN Rs. 7-8

Single Copy: Ordinary Number Annas Eight. Special Number Rupee One.

Editorial and Publishing Offices: 131, Coral Merchant Street, MADRAS.

PUBLISHED ON THE 15TH OF EVERY MONTH

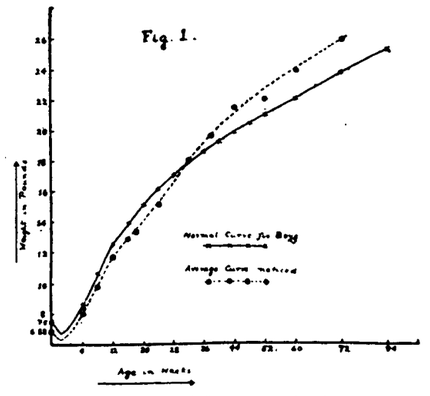
ADDRESSES AND ARTICLES

On the Prophylactic Use of Iron

● **U. P. Basu, D. Sc., P. R. S.**

(From the Bengal Immunity Research Laboratory, Barnagore, Calcutta)

Extensive clinical investigations are now in record that tend to show that infants (Mackay, 1931; Elvehjem *et al*, 1933; Usher *et al*, 1935; and others), as well as, women (Orr and Clark, 1930; Reid and Mackintosh, 1937; Duckles *et al*, 1937) suffer from a type of anaemia where there is primarily a deficient formation of haemoglobin due either to defective intake, or to increased requirement for their certain physiological changes, or to both. In all such cases administration of iron (preferably a simple ferrous salt) is now being advocated by numerous workers (*cf.*, Parsons, 1933; Davidson, 1933; Lottrub, 1934; Fullerton, 1934; Mackay, 1935; Lucas and Henderson, 1936; Toland, 1936; Elvehjem *et al*, 1937; Napier and Das Gupta, 1937; Sankaran and



Rajagopal, 1938). Of course, little difference in the efficacy of the various common preparations is being noticed when the following daily doses are followed: (a) reduced iron—3 gms (45 grains); (b) ferri et ammon citras—6 gms (90 grains); (c) Blaud's Pill—4 gms (60 grains); and (d)ferrous sulphate—0·6 g (9 grains). The smaller effective dose of the cheaper and simple inorganic ferrous salt is an advantage. Recently, certain proprietory concerns have also issued this either in tablets or in solution. But in the treatment of infants the possible deficiency of gastric acidity might make the solid form non-available (*cf.*, Mettier and Minot, 1931; Josephs, 1936). This naturally suggests a ferrous salt in solution and this would be also useful vehicle in any routine treatment. The difficulty that arises in offering a stable ferrous salt solution may easily be overcome by dissolving the salt iu suitable elixir (Basu and Chowdhury, 1940).

The question, however, arises in finding out the optimum dose during an iron medication. Some may respond to smaller doses and others again to a much higher dose. No definite knowledge is yet available as to the daily iron requirement whether by infants or by women. Mackay (1935) recommended 4·5 grains (about 60 mgm iron) and Stephenson (1938) 6·0 grains (i.e., 80 mgm iron) of ferrous sulphate for infants. Using ferrous chloride Stolleis (1937) found a dose of 25 mgm iron sufficient for infants. Jeans (1936) has again opined that the diet of infants upto one year of age may be daily supplemented by 7·5 to 10 mgm of iron only. Thus, there is no optimum dose and a clinical study with infants of any class or community seems to be of general interest. A daily dose of two teaspoonfuls of an iron solution affording about 10 mgm of ferrous iron, was easily tolerated by children born of middle-class Bengalee. The rise in haemoglobin level was invariably noticed in all cases; but as such a rise after an iron medication has been demonstrated by numerous workers and even very recently by Stephenson (1938), attention was mainly drawn towards its tolerance on prolonged use and its effect on the growth of the infants. Accordingly, a dose of 5 mgm iron (a teaspoonful of 'Haemogen' *) was given admixed with milk twice daily to infants when they were 3—4 months old, as Joshephs (1934 and 1936) has shown that the iron deficiency is rarely a phenomenon before this age. The therapy was then followed for more than a year. No untoward results were noticed. On the contrary, girls (only three in number) were always very active and agile. They were given usual diet consisting of cow's milk, barley and sugar to maintain the caloric requirement (cf., Basu, 1939) with extra addition of a few drops of cod liver oil and juice from 2 to 4 tomatoes, daily, and towards the latter part of the year eggs and potatoes occasionally. The average age and growth curve (Fig. 1) compares well even with the normal curve for boys who are on the

* 'Haemogen', an iron preparation in elixir, is being marketed by Bengal Immunity Co., Ltd. Calcutta.

average half a pound heavier than the girls during the first year (Holt and Mackintosh, 1936). This preliminary observation further points to the necessity of a clinical investigation with a large number of Indian babies for justifying the prophylactic use of iron during the period of their growth.

In case of pregnant women again, Coons and Coons (1935) suggest a daily intake of 15 to 20 mgm to ensure a satisfactory iron balânce. Recently, Morgan (1938) has also opined that 18 mgm of iron in the form of food or inorganic iron must be supplied to them. A sharp rise in the haemoglobin level in blood of college women has again been observed by Duckles, Willis and Elvehjem (1937) after daily administration of 25 mgm iron. A da'ly dose of 20 mgm of iron from any stable solution is found to be not irrita[illegible] o the stomach, particularly, when t[illegible] ed with milk. It must be pointed [illegible] it is very difficult to supply the po[illegible] iron that is required by the infants, [illegible] women, from their diet (cf., Orr and [illegible]rk, 1930; Elvehjem, 1934; Goswami and Basu, 1938, Basu, 1939). All these would then suggest a prophylactic use of simple iron salt for infants during their growth, and for women during their pre and ante-natal periods.

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Infantile Biliary Cirrhosis
(4) Cow's Milk as Diet

• Dr. S. Balasundaram, Director, Ehrlich's Laboratory, Madras.

ANALYSIS OF MILK

I may remind the reader that it has been shown in my previous article that the usual diet of children is cow's milk, either whole or diluted. It is my endeavour to discuss now in this article the possibility of this diet itself producing ill-effects in children born with a tendency for hyperactivity of some of the endocrine organs, viz., the suprarenal gland, the thyro-parathyroids and the anterior pituitary.

Cow's milk is considered to be one of the important foods of great nutritive value, not only for children but also for adults. Hence any discussion on its harmfulness or otherwise should be based on accurate scientific data.

Milk has been subjected to analysis from the day of ARISTOTLE who affirmed, "*Lac Est Sanguis Non Corruptus*" (Milk is elaborated and decomposed blood). It has been considered a fluid of great value equal in value to blood. The most ancient authors have only recognised three parts of milk viz., serum, butter, and curd. The first mention of a fourth constituent of milk occurs in a curious work by BARTOLETIS who from the yellow colour of butter referred to it as a sulphur principle. He compared the whey to quicksilver and the curd to a saline elment. He compared milk to blood and he also considered it to be composed of a sulphurated saline and a mercurial principle. Only in the early part of the 18th century, after the invention of the microscope, anything like our present idea about the constituents of milk was ever thought of. BOERHAVE

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was the first man to [illegible]rform qualitative test of milk with a great [illegible]iety of reagents, but the first quantitative [illegible]stimation was only undertaken by GEOFFR in 1737. Many others followed later. Upto [illegible] present day milks of mammalia alone have [illegible]n analysed.

For the purpose of this article I obtained data from the Food An[illegible]st of the Corporation of Madras. His figures record the content of fat and non-fatty solids in about 305 samples of cow's milk tested by him over a period of 4 years and more.

Average Fat content	Average Solids not fat	Ash	Lactose	Protein
4·11	8·02	0·65	4·28	3·09

THE EFFECT OF MILK ON SUSCEPTIBLE CHILDREN

The majority of children in Madras can therefore be taken to be fed on milk of this composition. If, as I have sa[illegible] in my previous article, the majority of healthy children as well as children with hepatic cirrhosis are taking milk of this kind either whole or diluted, then the question arises whether particular children only are affected by this kind of diet. We can easily presume that there may certainly be some fluctuation in the fat content as it depends on many factors such as the breed of the cow, the time and stage of milking, the age of the cow, the time of [illegible]e year, the mental and physical condition [illegible]n which the animal is kept, the food of the [illegible]w, the health of the animal, and even per[illegible]ps, as recent research workers have shown on the colour of the cow. But all these causes of fluctuation and their effect on the quality of the milk are common to all children and [illegible]e cannot therefore believe that a fluctuation in the fat content or any other constituent for the matter of that, can by itself create any trouble unless we can show that s[illegible]e children have got an inherently defective system of metabolism. Whether such thing is possible in [illegible] child which is born [illegible]th a predisposing hyperactivity of the endocrines is our next problem. The effect [illegible] hyper-secretory activity of the adrenal, th[illegible] thyro-parathyroids and the anterior pituitary glands on the functions of the organs o[illegible]the child especially that of the liver, has als[illegible] to be taken into account. The production of greater quantity of the adrenal oxidase [illegible]ecessarily means a stimulating action dire[illegible]ly on the cardiac muscle, [illegible]rrespective of t[illegible]e inhibitory centres causing a cardiac and [illegible]ascular contraction. There is also a direct stimulation of the vascular elements of [illegible]e heart and the vessels including the [illegible]rterioles, but the capillaries are not contracted as they consist of endothelial but not muscle cells, When vessels supplied with muscular coat contract the capillaries dilate. While the hepatic artery which is the chief artery supplying blood to the liver contracts, with effective pumping of the heart, the capillaries of the hepatic lobules dilate, thus enabling the liver cells to quicken their oxidative process.

An increased activity of the thyro-parathyroids will mean an increase in the production of larger quantity of iodine in the system in organic combination. This renders the phosphorous of all tissue cells and particularly their nucleii more prone to undergo oxidation. Another effect of the parathyroid secretion is the increase in the germicidal and the antitoxic power of the blood by endowing the albuminous portion of the haemoglobin [illegible] sensitizing properties. In oth[illegible] opsonins of the blood are incr[illegible]

The increased activity of the [illegible] tary means increased oxygenation a[illegible] lism in addition to the stimulation of the othe[illegible] endocrine glands by its property of co-ordinating the secretory activities of these organs.

Such is the condition of organs in a child of the type we have to study Infective processes with organisms or damage due to toxins may not be easy in such a child on account of the increase in the power of resistance as mentioned above. So, harmful effects, if any, can be produced only [illegible] the rapid oxidative processes in the liver [illegible]led with phosphorous inflammability. In a child of this type, a fluctuation in the fat content of the diet may probably do some harm. The role of the liver is chiefly thought to be one of preparing the fat for oxidation by organs where discharge of energy is conspicuous as in the heart, muscle or kidneys. The exothermic stages of the break down of fat resulting in great energy are reserved for these organs. Not only these fats are absorbed by the system from the alimentary canal but also the body fat in times of need are subjected to this process of mild preparation by the liver. When no fat is obtained in the liver through the digestive organs, the liver sends its stored fat prepared and ready for combustion by the tissue cells. When that is also exhausted there is a mobilisation of even the fat stored in subcutaneous tissue. J. B. LEATHES (*Lancet*, Feb. 27, 1909) has expressed these changes very well by comparing the preparatory action of the liver to the drying of gun powder.

"The fats we generally take in" he writes, "are remarkably unreactive substances and they are wet gun powder. The body stores its gun powder wet in the subcutaneous tissue or in the organs safely removed from the inflammatory operations of the busily working cells. When the orders of mobilization are issued this wet powder is conveyed to the drying chambers of the liver and from there distributed to the fighting line in a proper condition for use."

Hence when there is a dimunition of fat ingestion and the oxidative processes of the liver cells are in an enhanced state one can expect too active a mobilization of the fat taking place in the body and other organs, resulting even in a fatty accumulation or sometimes a degeneration in the liver cells. The enhancement of the oxidative processes, coupled with sphorous inflammability, renders n and degeneration of the liver cells

ke into consideration the other ssibility of greater quantity of fat being ingested, then we have to meet several other factors coming into play. The result of definite introduction of large amounts of fat in the intestines is inc eased formation of alkaline soaps. Thus the alkalies required usually for maintaining the acid base level of the system are prevented from reaching their normal destination. The neutralization of the inorganic acid end-products of metabolism is effected by enough production of ammonia by the system which na lly appears in the urine in increased quantity, whereas the alkalies in the intestinal tracts are excreted in the faeces and in such quantities that the balance of alkali in the body may remain constantly negative. With a diet rich in fat there is also a greater absorption of phosphoric acid. The absorption is not in the form of calcium phosphate to a great extent, since even when considerable quantities of lime soaps are formed in the intestines an incresed excretion of lime through the intestines does not follow and the little calcium phosphate that is formed is not taken in, as it is absorbed with difficulty. Hence greater portion of the phosphoric acid is absorbed as such, and possibly readily combined with the large amount of ammonia to be excreted in the urine as ammonium phosphate. As the accumulation of the inorganic acid end-products tends to increase in a child fed on too much of fat the tissue cells are unable to cope with the extra quantity of fatty acids sent to them for oxidation. But ti does not stop the oxidation process. ence a stage can be expected when the l r goes on with its work till there is actual d ruction of the liver cells themselves. Thus f re is greater danger in a child fed with mo fat than the child fed with less, since in ac tion to the usual trouble on account the enh ced oxidative processes in the liver in the f ner, there is a tendency for the accumulato of the inorganic acid end-products of m olism resulting in the large production monium phosphate to be excreted by the ney.

It is therefore vious that a fluctuation of the fat contents in the diet given to a child of the type we have ken up for study is harmful either-way. he fat of cow's milk is a complicated struure. since as many as fourteen fatty ac may be obtained from it which may be pportionately represented in each molecule of. Whether a child is given pure milk r dilu ed, the danger is still there for the child with the increased oxidative processes n the iver.

Fluctuaons in the protein and lactose contents omilk to an appreciable degree are rare and even granting such a possibility there is no likelilod of hepatic disturbance due to this cause. It has been accepted on all hands that proteinmetabolism is not affected even in advanced ages of illness of a child. The allergic state sometimes developed by some patients for rtain of the milk proteins, is suggested by ome as a probable source of trouble, but t t is offset by the fact that some of the ch dren suffering from hepatic cirrhosis have n t been given cow's milk at all.

Fluctuation in he ash content of the milk may or may not o harm. The ash content of the milk is co posed of salts of potassium, sodium, calcium magnesium and ammonia in combination with oxygen, nitrogen, chlorine, and carbondioxi. Traces of aluminium, silica, manganese, flourine and iodine are also present. Not all these salts are found in solution as a part these, particulary calcium and phosphorous, e precipitated by mechanical action as if centrifugalization. The possibility of a chil getting too much of these salts is out of qestion since it is possible only if there is intentional addition of these elements. n the other hand the possiblity of a reduc quantity of these being given is more e dent when we dilute the milk. Dilution f milk is generally made to reduce the amc nt of fat given to the child but it incidentally also reduces the amount of salts. The requisite mineral salts when diminished may hinder the absorption of vitamins and interfere with growth. In the present state of our knowledge we cannot say whether there is any interference under these circumstances with the functions of the liver.

Fluctuation in the content of vitamins is of minor importance for us in the study of this disease where definite pathological lesions are found in the liver.* A vitamin deficiency in the milk can only probably aggravate a trouble due to other causes by not providing these necessary substances for tissue regeneration, growth, and metabolic activities. The want of vitamins in the food, being primarily responsible for such great pathogical changes as we find in a child suffering from hepatic cirrhosis is, to my mind, far fetched since our present knowledge of vitamins and their relation to the health of man does not warrant such a serious contention.

CONCLUSIONS

1. The oxidative processes of the liver in children with hyperactive endocrine glands are enhanced. The opsonin content of the blood is also increased. Phosphorous inflammability is enhanced.

2. While infection or damage due to toxins may not be likely in such children on account of the increase in the power of resistance, damage to the liver can be expected on account of the exaggerated oxidative processes and the phosphorous inflammability.

3. As it is not possible to give a child of this type cow's milk with the proper content of fat to suit the exaggerated activity of the liver cells, administration of either too little or too much of milk fat is inevitable.

4. Owing to the complicated nature of the milk fat and the condition of the liver cells engaged in the metabolism of this fat, various disturbances are created in the system resulting in the dimunition of body fat, fatty degeneration of the lver cells, excretion of large amount of ammonium phosphate through the urine and plenty of alkaline soaps through the faeces. All or some of these phenomena can be expected depending upon the consumption of either too little or too much fat.

5. Hence, though cow's milk, as such, is quite a good food for normal children it may itself do harm with whatever care it may be given to susceptible children, especially of the type I have mentioned.

*We do not agree. Deficiency of vitamins is known to cause definite pathological lesions e.g., in beri-beri and pallagra—Ed. *I. M. J.*

Night Blindness in Hissar

● **Dr. Ratan Chand, L. S. M.F. (Pb.), Canal Dispy., Dadupur**

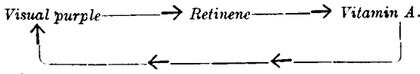
Night blindness may be a symptom of some organic diseases of the eye, such as retinitis pigmentosa, or it may may be due to hypovitaminosis—A when it is accompanied by no demonstrable ocular changes. The latter type, which I shall discuss here, is fairly common in Hissar—a district typically the seat of "continuous pregnancies and repeated famines". The writer had the occasion, during his famine duty in connection with the recent famine, to see and treat a large number of night blindness cases among the labour force working on the relief camps. Although various other types of nutritional defects and deficiency diseases were also common, yet cases of night blindness outnumbered them all.

Despite the people being awfully ignorant and deplorably timid with regard to the narration of their complaints or coming forward for treatment, we were able to pick up 5 to 7% of the total labourers as definite victims of this disease. Because we had wholly to depend for diagnosis upon the history of the patient, which was not easily forthcoming, so we had actually to go round, ask the people individually and give them promises of a magical cure, before we were able to sort out the sufferers. By this way we were able to get 70% or so of the actual number of cases under our observation. The very early victims of avitaminosis A (which neither the patient nor we could detect) were absolutely out of count. It can, however, be safely said that the malady is endemic in this district and that the incidence of frank night blindness in varying degrees rose to about 10% or so during the recent famine.

ETIOLOGY

There is now universal agreement that night blindness is essentially an earlier event in the symptom complex of avitaminosis A—xerosis xerophthalmia, keratomalacia, and keratinisation of the epithelium of the various other systems being the later developments. Experimentation on animals and corroboration of the results by clinical observations on human beings, carried out by workers like Osborne, Mendel, Mc Collum, Green, Mellanby, Jeghers, Tentimire, Jeans and Wald, have left no doubt as to the etiological significance of vitamin A deficiency in this disease. The association of xerophthalmia with deficiency

in the diet of some "fat soluble factor", was recognised as early as the beginning of the present century, but in 1913 more light was thrown on this subject by the discovery of vitamin A. It was not, however, quite clear how vitamin A deficiency caused this disease until quite recently (1933) when G. Wald was able actually to demonstrate that vitamin A is directly concerned in the photo-chemical changes produced in the retina by the impact of the light rays. He has given us a very interesting and, at the same time, a plausible explanation of the physiological chemistry of this "bleaching degeneration" cycle of the visual purple. According to him the visual purple is changed by the light striking the retinal cones into retinine (which has a yellowish orange colour) and then into vitamin A. It is this chemical change that provides stimulus for the optic nerve. Moreover this process is quickly reversible so that when light is withdrawn, as during the process of winking, the vitamin A is again changed into visual purple. In fact visual purple and vitamin A appear to be closely related, possibly as isomeric substances. Diagramatically the photochemical change is somewhat like this :



Some of the vitamins are utilised (or lost) in this physiological change. Normally this loss is constantly being replaced so that vision remains perfect. But when there is deficient supply of vitamin A, this "replacement" also suffers; and delayed, inefficient or insufficient "re-synthesis" of visual purple is liable to take place. This is really the cause of night blindness.

This deficiency of vitamin A may be due either to less supply in the food or to defective absorption from the gut. Now let us consider the diet of these labourers. I have seen them taking wheat or barley chapatis with salt, onions and red pepper both morning and evening with some gram in the afternoon. Occasionally they get some potatoes, pulses and 'gur'. The fat and vegetable contents of their diet are quite negligible. Apart from being ill-balanced and thoroughly insufficient, this diet hardly contains any vitamins particularly vitamin A. Some of the American authors maintain that 6000 to 8000 international units of vitamin A are the daily requirement of an adult. The League of Nations Technical Committee advises a daily intake of 2000 to 4000 international units. The diet of the labourers under our survey was decidedly poor in these respects. Even in non-famine conditions their diet, in a vast majority of cases, consists of bajari, maize, barley, onions, cereals and small quantity of root vegetables and sago in winter only. 'Lassi' and a little ghee are the only animal products they get. Green and leafy vegetables, butter, milk and meat they don't get as a rule. So even in non-famine conditions their diet is insufficient source of vitamin A and the supply is certainly much less than the standards required. What is inexplicable is that notwithstanding the constantly subnormal vitamin A supply, most of them do not get night blindness or xerophthalmia—a strange escape indeed! Even in experimental animals —according to Green and Mellanby (1928)— only 38% develop signs of avitaminosis A when their diet is restricted in vitamin A. It seems therefore that there must be some other factor besides vitamin A which plays a "protective" role. It is quite possible that some vitamin A may be synthesised by the body from other food factors just as fats can be synthesised from the carbohydrates or, to go a bit further, as vitamin C can be synthesised in the body from mannose and glucose (according to Guha, Bannerji and others). Although the current belief is that body depends for its vitamins on external supply, yet it is possible that it may, to some extent, able to make up for the deficient supply of vitamins (so of vitamin A) by a synthetic process.

It may not be out of place to mention some local beliefs about the causation of night blindness. It is said that its incidence is highest during the months of June, July, August and September when the workers are out ploughing the field in the bright sun and moist heat; and also when they take wheat instead of their staple diet "Bajari". I don't know how far light and heat are to be incriminated, but this is a thing of common experience that if, after a midday walk in the bright sun, we enter a shady room, our eves find it difficult for some time to adapt to this comparative darkness of the room. And what is night blindness after all? It is also a defective adaptation to the dark. So it may be that bright light causes an increased physiological loss of vitamin A and sluggish re-synthesis of visual purple. The second belief can be explained by the fact that "Bajari" is comparatively richer in fat (hence in vitamin A) than wheat is.

Symptomatology: This requires no detailed description. The only difficulty expressed by the patient is the inability to see at night or

in a dark place. This defect in the vision may be of varying degrees. We divided our cases arbitrarily into three clases: (1) Slight or early cases (2) Moderate cases (3) Complete or marked cases, when the patient is as good as an invalid, after duskfall. As I have mentioned before, there were no evident signs to help spotting out of these cases. Externally there was nothing to be found except a little dryness of the conjuctiva in some cases. We saw no frank xerosis in any case. Internally, too, there were no ophthalmoscopic findings. But we were not able to do ophthalmoscopic examination except in a few cases, there being no proper arrangements for this purpose.

Diagnosis chiefly depended upon the statement of the patient. Recently Jeans and Zintimire have devised a fairly simple test called "Dark Adaptation Test" to detect even very early cases of vitamin A deficiency. The test depends upon the speed with which the eye adapts to temporary darkness, and is a very convenient and reliable indicator of the level of vitamin A in the body. We could not possibly carry out this test in the camp. But if a survey were made with this test, I am sure, the percentage figures of the victims of hypovitaminosis A would have been fairly high.

Treatment is simple and effective. We have only to increase the vitamin A content of the patient's food. Thus milk, butter, cream, fresh ghee, meat, fish, liver (deer's liver is believed by these people to be a specific) green and leafy vegetables in sufficient amounts daily can cure the condition. This is a corrective and preventive treatment. For rapid curative purposes purer forms of vitamin A as Abidol(P. D. & Co.), Vogan (Bayer) and Crook's Halibut liver oil, can be used. But by far the cheapest and almost as efficient form of treatment is with cod liver oil. We used to give 1 oz. of pure cod liver oil daily to the adults in a single dose or divided into two, children getting proportionately smaller doses. Emulsion was also used but it was found to be less effective and had to be given for a longer period. On an average 7 to 10 days' treatment was found to be quite sufficient for cases of 1 to 30 days' duration. Others required a longer administration.

At first we used to administer cod liver oil in a haphazard and irregular way, depending upon the honesty of the patient to come again. But most of the people, being orthodox vegetarians, did not like the taste and the smell (also the idea) of taking this animal product. So in the beginning he who took it once did not come for it again and we had to face considerable difficulty in popularising this drug. We had actually to coax it down their belching throats. After a few weeks of disgusting experience, a regular scheme, according to the suggestions of our inspecting officer, was evolved. A regular register for the picked up cases was maintained, and, if any one did not attend for his daily dose, he was reported to the officer in charge of the camp and his daily wages were forfeited. This school-like regime of compulsion worked very nicely, and the ignorant people were also awakened to the magical effect of this treatment. Later on, our cod liver oil which we styled as *Walavati ghee* became so popular that people would actually beg for it. I give below an evaluation of the results of 317 cases treated on these lines :

1. Total number treated : 317—males 117, females 173, Children 27.

2. Degree of blindness : slight 38, moderate 92, and complete or marked 187.

3. Duration : 1 to 10 days—143 ; 10 to 30 days—96 ; over a month—55 ; over 3 months—8 ; over a year—15.

4. Results according to duration and degree of night blindness.

Degree	Cured	Relieved	Discontinued treatment and results unknown	Total		% of cure
I. More than a year's duration						
Slight (A)	1	1	1	3		
Moderate (B)	1	...	2	3	15	20%
Marked (C)	1	3	5	9		
II. More than three months' duration						
A	1	...	1	2		
B	1	1	...	2	8	37·5%
C	1	1	2	4		
III. More than a month's duration						
A	5	1	...	6		
B	7	2	2	11	55	70·91%
C	27	5	6	38		
IV. Ten to thirty days' duration						
A	5	1	2	8		
B	12	2	4	18	96	78·12%
C	58	4	8	70		
V. One to ten days' duration						
A	16	1	2	19		
B	49	2	7	58	143	82·52%
C	55	3	8	66		
Total	240	27	50	317		75·71%

It will be noted that the number of cases of "slight" category was rather small. It was.

because the labourers tried to conceal their trouble.

Some of the early cases of a few days' duration reacted really dramatically. Even with single dose their vision was restored or remarkably improved. Most of the cases shown as "discontinued treatment and results unknown" were those who took cod liver oil for a day or two and then did not come up for intimating the results or for further doses. Those shown in "relieved" column, were also predominantly those who attended for a few days, admitted a good bit of improvement and ultimately dropped. If these cases also had been regular in treatment, the percentage of our cures would certainly have been higher still. In only 5 or 6 cases of very long duration we could say that they did not really benefit by our treatment. Of course it would have been elucidating and clarifying to have performed ophthalmoscopy and other investigations on such resistant cases.

Vitamin A content of cod liver oil of different makes and qualities vary from 600 to 3000 international units per gm. Presuming that our cod liver oil to be 1000 international units per gm., we were giving at least 30,000 international units per adult per day (1 oz. — 30 gms). Normal daily requirement is 2000 to 4000. This points to the adequacy of our treatment.

I am thankful to Dr. T R. Tewari, our Inspecting Officer, for his valuable suggestions with regard to the scheme of regular treatment.

Modern Treatment of Malaria

● **A. Viswanathan, L. M. P., Madras**

NATURE OF MALARIAL INFECTION

The treatment of malaria is both simple and difficult. It is so because of the nature of malarial infection. Experience has shown that, unlike many other infections, malaria does not end with a single attack but tends to recur. Secondly, the effects of malarial infection and the extent of relief there-from vary with the specific species of malarial parasites and the dosage and the persistence in the use of well-known and well-tried specifics. Thirdly, the nutritional state of the patient, his powers of resistance, the degree of the development of his natural immunity, and the frequency of his exposure to infection are factors that influence the relative degrees of success in the specific treatment of malaria. Fourthly, the ubiquity of malaria in our country and its association with other diseases such as typhoid, tuberculosis and pneumonia have often raised conflict and confusion in diagnosis and treatment. Fifthly, we have still the problem of malaria in pregnancy and its treatment: whether to choose the greater evil of abortion due to malarial toxins or to give the benefit of doubt to quinine and take the risk of an abortion as a consequence. Lastly we have yet the unending conflict of opinions and experience regarding the malarial origin of black-water fever—whether it is a type of malaria due to the as yet unidentified species of malarial parasite or to excessive or irregular quinine therapy. Besides these major factors, we have also to reckon with the manifestations arising from the varied and different pathological states of blood, tissues, organs and reticulo-endothelial system brought about by acute and chronic malarial infection, more generally the latter.

THE AIMS OF TREATMENT IN MALARIA

Broadly stated, the aims of treatment are: (1) to rid the blood of all malarial parasites in all stages of their development; (2) to adopt such measures of prophylaxis as are available against infection, reinfection and relapses and (3) to initiate appropriate treatment for complications and sequelæ which are often the result of imperfect, irregular or absence of treatment in proper time by suitable methods and optimum dose of malarial specifics. The one dominant idea which the writer has always kept in mind is to conceive malaria as a chronic disease requiring prolonged treatment even during the symptom-

free intervals so characteristic of this protozoal infection, and to augment the specific treatment of malaria by measures which would improve the general health of the patient. These aims are not always achieved or achievable because of the essential persistence of malarial infection leaving in its trail the gametocytes which act as links of biologic connection between man, mosquito and malaria, and of the absence of continued and continuous co-operation by the patient who treats his malarial attacks as a matter of no concern to his ultimate health.

DIFFICULTIES IN TREATMENT

Notwithstanding the easy availability of specific drugs in the treatment of malaria, it bristles with many difficulties. The first difficulty is one of choice of drugs: Which is the better of quinine alkaloids? Which is the better of the two: quinine or chemotherapeutic remedies? Which is the better method of administration: oral or parenteral? The second difficulty is the baffling variations in the results of treatment by one and the same drug. Quartan malaria is strangely refractory. Chronic benign tertian malaria is notorious for its relapses. Sub-tertian malaria springs many surprises, comes like an avalanche and drowns the patient with or without rescue. The third difficulty is to find the malarial parasite in some chronic cases where the organisms are enmeshed in the reticulo-endothelial system without making their accustomed entry into the peripheral circulation, and the consequent doubts in diagnosis and the inevitable delay in the initiation of specific treatment. The fourth difficulty is the pleomorphism of clinical symptoms in chronic cases where the characteristic periodicity of fever and other symptoms of acute malaria are marked by their absence, and thus encouraging expectancy in treatment and diagnosis to the probable detriment of the patient. These difficulties must be faced and their solution sought by the exercise of prudence, availing oneself of the help of the laboratory as far as possible, and careful observation of the patient. Each one of these difficulties is a problem by itself on which much has been written and more could be written. They are mentioned in this article not with a view to discuss them in detail but to recognise their relevancy in the specific and subsidiary treatment of malaria.

PREPARATION OF THE MALARIA PATIENT

It may look strange to use this language of surgery, but it is the neglect of this precaution and supine indifference to its importance that has been, in the experience of the writer, a prolific cause of imperfect cures, the great number of relapses, and what is empirically called quinine-resistant-cases. One should remember that both acute and chronic cases do invariably and markedly suffer from acidosis and that many a malarial patient suffer from achlorhydria or hypo-chlorhydria. Moreover the condition of alimentary mucosa in the malarial patient is not conducive to optimum absorption of quinine owing to the coating of mucus along the lumen of the intestines, the occurrence of constipation or diarrhoea, and to the torpidity of the liver. The vomiting in certain malarial patients, sometimes attributed to the exhibition of quinine, is really due to acidosis which is the nature's way of getting over it by expelling the acid gastric juice. It is therefore patent that the alkaline balance of body fluids should be restored by a preliminary saline purgative and subsequent administration of alkalies. The restoration of alkaline balance is advisable on other grounds also. It helps to strengthen the natural defences of the body. It relieves the effects of cinchonism. It lessens the anaphylactoid symptoms of the malarial paroxysms. It facilitates, above all, absorption of quinine with maximum therapeutic results. The chronic malarial patient with enlarged spleen and/or liver and with secondary anaemia should not be hustled into specific quinine therapy before the patient is prepared to receive it. Otherwise quinine would produce effects worse than the disease, and it may even precipitate haemoglobinurea. He should be prepared for quinine administration by prior purgatives and rebuilding his lost reserve powers by proper diet and tonics. Only such patients who are prepared in this manner will respond well and early to specific therapy. There is only one exception to this rule: malignant malaria with algide or cerebral symptoms where time is the essence of treatment, and therefore quinine has to be pushed intravenously irrespective of all other considerations.

SPECIFIC THERAPY

Specific Drugs: There are three drugs which have made history in the specific treatment of malaria. Of these cinchona and its various alkaloids continue to enjoy their well-deserved reputation, and are still the sheet anchor in the prophylactic and curative treatment of malaria. During the early part of the last decade Plasmoquine (N-diethy laminoisopentl-8 amino 6-methoxyquinoline) made its debut and created a short-lived

sensation. It is now used more as a prophylactic than as a curative to kill the gametocytes of subtertian malaria which are usually uninfluenced by quinine. During the later part of the last decade Atebrin (Dichlorhydrate of 2-methoxy-6-chlor-9-a-diethyl-amino-pentyl-amino-acridine) was ushered as a better and more rapid schizonticide than quinine. Quinine is usually given in the form of equinine (for children), quinine sulphate or bisulphate or quinine bihydrochloride (for adults), quinine bihydrochloride with a little urethane or antipyrin or phenazone for intramuscular injection, and aqueous isotonic solution of quinine hydrochloride for intravenous injection. Plasmoquine (1/4—1/2 gr.) is usually combined with quinine sulphate (7—9 grs.), as the former, given alone, was found to produce alarming toxic symptoms, such as diarrhoea, cyanosis and collapse. It can be used both orally and paranterally. Atebrin ($1\frac{1}{2}$ grs.) is used as a substitute for quinine.

Relative Merits: Today's general experience is that quinine[1] is better than chemotherapeutic remedies. This is in conformity with the writer's own personal expereince. It is meaningless to use plasmoquine as a curative, because its action is only on the gametocytes. These sexual forms of the parasite are certainly not the cause of symptoms of malaria. They are the connecting links between man and mosquito, and form the starting point of sporogony in the latter. The use of plasmoquine, therefore, is indeed very limited, and is best given as an after-treatment in malaria to rid the patient's blood of gametocytes, not in the interests of the patient but to attack the reservoir of infection in him so that he may not become the purveyor of infection to others through the musquito medium. Plasmoquin administered singly has been found very toxic, but in combination with quinine its toxicity is found to be at a minimum for some reason as yet unexplained. Atebrin is used as a substitute for quinine for the reasons that it is less bitter; that it effects clinical cure earlier and it destroys the schizonts of the three species of plasmodia more effectively, massively and quickly than quinine. Much clinical and laboratory evidence has been published by the Calcutta School of Tropical Medicine in support of this view, but the writer's experience has been that Atebrin does not score points further than quinine, and that it is dangerous as a routine. Apart from the discoloration of the urine and skin it causes in certain susceptible persons, particularly children, (considered to be inoccous) there seems to be a growing evidence for the clinical belief that it somehow or other gives rise to mental symptoms akin to temporary acute insanity. The relative merits of quinine, atebrin and plasmoquin are therefore plain and unambiguous. Quinine still holds the field and is the drug of choice. The schizonticidal and gametocidal properties of quinine do certainly vary according to the species of the infecting plasmodia, but its clinical properties of curing malarial symptoms due to any of these species of malarial parasite are definite, constant and substantial. In individual cases where money is no consideration and where the patient can afford daily personal medical supervision, the common plan of treatment adopted is: quinine for the first one week from the date of attack, Atebrin during the second week to complete the destruction of the remaining schizonts, and Quino-plasmoquine during the third week to destroy the residual gametocytes. It must be noted that Atebrin should not be given either with quinine or plasmoquine. In acute subtertian malaria with algide or cerebral symptoms, the physician should straight away choose quinine and administer it intravenously without any kind of tinkering with the chemotherapeutic drugs. There is no choice here except quinine.

Mode of Quinine Administration: Provided the patient is prepared beforehand by a preliminary purgative and the blood and tissues alkalinised by a simple alkaline mixture before and during specific treatment, quinine by mouth and quinine by intramuscular injection give the same clinical result within approximately the same period of time. It is therefore obvious that quinine by mouth should be the usual mode of administration for all ordinary cases of malaria. Notwithstanding this general truth, the writer has seen and treated cases with intramuscular quinine with better and quicker results than oral quinine. These are probably cases where quinine fails to be absorbed in propec quantities by the blood and tissues. But such cases are not common. As between the intramuscular and intravenous injection, there has been a prolonged controversy as to which is the safer and better route. In desperate cases of malignant malaria intravenous quinine is the only choice left to be made, So, the dispute boils down to: which is the better of the two methods in the ordinary treatment of malaria if parenteral route becomes inevitable? *The Indian Medical Gazette* has taken the lead in condemning intramuscular injection as uusuited and undersirable on the grounds that it inflicts an avoidable trauma on the site of injection which more often than not leads to abscess formation, that it has no particular advantages over the oral route and that if parenteral route has to be chosen the intravenous one is more advantageous and less dangerous than the intramuscular administration. This is true to a great extent and is due to the fact that the acidic nature of quinine bihydrochloride causes pain, infiltration and necrosis, and that during sterilization by prolonged heat the acid salt is partly converted into quinotoxin which lowers the therapeutic efficiency of the alkoloid[2]. Basu and his co-workers[3] maintain that most of the side reactions of quinine are either due to a defective preparation or faulty technique of injection, and that a solution prepared away from light, sterilized at a lower temperature and adjusted to a higher pH is invariably well absorbed and gives rise to no untoward symptoms. The general position with regard to choice of modes of quinine administration is this: give quinine by mouth in ordinary cases; intramuscular injection in cases which resist quinine by mouth or in which there is much vomiting and nausea; and intravenous injections in malignant types of malaria. Care must be taken that quinine solution for injection must be of the kind described by Basu whose work has been referred to in the course of this article. Intra-muscular injection has fallen down in repute mostly due to the rough and ready method of preparing the solution by the practitioner himself, and partly due to the wrong sites and faulty technique of injection.

Time of Quinine Administration: The best time for quinine to be given in fresh malarial infections, where there is marked periodicity, is when the patient begins to perspire after the usual rigor and hot stages. To give it earlier is to aggravate the headache and general distress. But to give it later is to obtain a larger field of young parasites, already freed from the R. B. Cs. at the commencement of fever, for the destructive action of quinine. This advantage should be secured whenever possible. Unfortunately however, most of the chronic cases are usually atypical in respect of the manifestation of periodicity, rigor and intermission of fever. Therefore, it would be a safe rule to begin to give quinine irrespective of the time of bursting of the red corpuscles containing the mature parasites (which often cannot be correctly estimated clinically), and to continue to give it till the peripheral blood is free from them.

Dosage of Quinine: The dose depends on many factors: age, weight and race; different strains of parasites; and the extent of patient's immunity. Age and weight need no particular stress as they are obvious factors to be reckoned with in regulating the dose of any drug. But what is generally not recognised is the fact that Indians do not tolerate heavy doses of quinine and that comparatively smaller doses are sufficient for an effective cure. Besides, the Indian strains of parasites are less virulent than the Italian, and therefore do not demand heavy doses. Again, a certain, though often varying, amount of immunity is established in a malarial patient within a week of fresh infection. Therefore it is that quinine is usually given in higher doses (35 grs. a day) in the beginning, and in lesser doses (5 grs. a day) for eradicatory treatment. The *short from of treatment* which the Malaria Commission of the League of Nations recommend seems to be the best for adoption. This is summarised in the following table:

TABLE OF QUININE DOSAGE IN THE SHORT FORM OF TREATMENT

Nature of Infection	First Treatment)	Continuation Treatment (2)	Remarks
Benign Tertian	15 grs. a day for one week	5 grs. a day for one week	Repeat (1) & (2) if there is relapse
Quartan Malaria	20 grs. a day for one week or two	6 grs. a day for a fortnight	" "
Subterian Malaria	30 grs. a day for one week	8 " " " "	

The main idea in the short form of quinine treatment is to treat the patient and not merely to kill the parasites directly. In fact larger doses over a protracted period may have the reverse effect by disturbing the defensive mechanism of the human body, while in the doses mentioned above and continued for a pericd of *not more than 14 days* the bacteriostatic and the parasiticidal effects of quinine are best utilized with comparative safety and security to the patient and with maximum sterilization of parasites in the blood. Only sexual forms would be left behind for which a short course of quino-plasmoquine should be given.

It must be emphasized that quinine should not be given in empty stomach. Cases of

1 The chief alkaloids of cinchona are: quinine, quinidine, cinchonine and cinchonidine. The popular preparations of quinine are: equinine, quinine-bi-hydrochloride, quinine bisulphate, quinine sulphate, quinine hydrobromide and quinine hydrochcride.

2 Basu *et al*, *Ind. Med. Jour.*, Vol. 34, 1940, No. 3, p. 61.

3 *Ibid*

cinchonism are mostly due to the neglect of this simple precaution.

It must also be emphasized that, while treating chronic malaria, quinine should be started to be given only after measures for improvement of general health have been taken and continued for some time. In chronic cases the fragility of the R.B.C. is so great that quinine and malarial toxins combined would produce an extensive haemolysis as to result in haemoglobinurea. By chronic cases are meant those which had no, or irregular, quinine treatment and in which the characteristic features of pyrexial remission, periodicity, and the typical cold, rigor and hot stages—even the sweating stage—are either not pronounced or totally absent. This may, in all probability, be due to the imprisonment of the parasites in the reticulo-endothelial system, and their scanty presence in the peripheral circulation. These are the cases where an enlarged spleen is usually present

ADJUVANT THERAPY

To treat simple and uncomplicated cases of malaria quinine is quite sufficient. It however needs re-inforcement in chronic malaria with enlarged spleen, in malarial cachexia and anæmia, and in persistently relapsing cases. Proper rest and nutritious diet are essential pre-requisites in the treatment of all these cases. The well-known triple sulphate mixture containing quinine, iron and magnesium sulphate is useful in malarial splenomegaly. Liq. Arsenicalis may be added with benefit. Stovarsol is good and effective in some relapsing cases.

SOME GENERAL REMARKS

Quinine mixture is better than pills from points of view of quicker absorption and better effects. Quinine sulphate, bisulphate or bihydrochloride may be chosen for oral administration. Roughly 10 grains of the sulphates are equivalent to 5 or 8 grs. of the hydrochlorides, and this is due to their difference in alkaloidal contents. For the purpose of injection not more than 10 grs. of the bihydrochloride of quinine is needed for a single administration. Equinine is best for children. Quinine hydrobromide is best for persons with idiosyncrasies. The fiction that quinine is contra-indicated in the malaria of pregnancy must be given up. Used in reasonably moderate doses there is no danger of abortion unless it is precipitated by other factors. The bitter taste of quinine may be much mitigated if the patient chews *pan* after swallowing the mixture.

MALARIAL PROPHYLAXIS

As Covell[4] rightly points out, prophylaxis is of symptoms only, and not of infection. If the patient has been bitten by an infected mosquito an attack of fever is certain to ensue as soon as he ceases to take the prophylactic dose of quinine. Military history records many instances whers military units or labour force were kept on their feet in doing urgent work in a highly malarious locality by regular prophylactic doses of quinine. The truth is that neither quinine nor its synthetic counter-parts have been known to destroy the sporozoites by which an infected anopheles transmits the infection to man while biting him. Quinine, therefore, can by no means be considered as a causal prophylactic. It is at best a prophylactic of symptoms. The better plan of prophylaxis for individuals would be to avoid being bitten by mosquitoes in malarial regions either by living in mosquito-proof houses or by using mosquito-nets while sleeping in the nights. The former is impracticable except for the very rich, but the latter is a convenient and cheap alternative. It is unfortunate but true that the average Indian villager connot yet afford to buy even a mosquito curtain.

While prophylaxis by quinine and the use of other protective measures like mosquito curtains and mosquito-proof houses are good by themselves to a limited extent, there is no doubt that the problem of malaria prevention is of greater importance. Our country's incidence of malaria, and invalidism and mortality arising there-from are too great to be brought under control by mere personal prophylaxis. It is difficult to visualise the happy day when our country may be free from malaria, because its continental size, the complexity of the issues involved in, and the costliness of the schemes of prevention are factors that baffle the early realisation of the ideal of malaria prevention.

[4] Lectures on Malaria—*Health Bulletin No. 5* of the Malarial Bureau.

STIBOPHEN

Burroughs Welcome & Co., to meet the demand for the English product, announce the manufacture and issue of Stibophen by licence under the Patents etc. Emergency Act 1939 relative to the English Patent No. 376346, the objective substance of which is Fouadin (Stibophen).

Stibophen is a trivalent antimony compound of sodium pyrocatecholdisulphonate; it is indicated in the treatment schistosomiasis, dermal Leishmaniasis and other tropical diseases.

Fallacies in the Diagnosis of Appendicitis

● M. Abdulla, L. C. P. S. (Bom.), L. M. & S. (Hyd.), Vaniyambadi, S. India

The diagnosis of appendicitis is sometimes as difficult as it is easy. There are many factors and diseases to be considered before arriving at a definite conclusion. Pain in the right iliac fossa is not always a positive symptom of a[illegible] several organs in the [illegible] to consider the possibility of each [illegible] the source of trouble before final diagnosis.

The pain in the right iliac fossa may be acute and severe, or it may be sub-acute and chronic. It might have been experienced for the first time or one of the many painful attacks. The character of it does not generally distinguish any one cause with certainty from the rest.

There are typical and atypical forms of attacks of appendicitis and it is in the atypical forms that a medical man finds that he is nowhere. The difficulties in the correct diagnosis arise more in those medical institutions and private hospitals where there are no X-ray units and laboratories. Unfortunately, sometimes, the reports of the laboratories and X-ray photographs do not enlighten one on the subject. Matters are made worse by such reports as "highly suspicious" and "high polymorphonuclear count" and "no definite signs of appendicitis are present". The high leucocytic count is only a contributory evidence of an inflammatory lesion somewhere in the body. All the signs described in the test books—pain in the Mcburney's point, pain and rigidity in the Sherren's triangle, Raving's sign, pain elicited by finger pressure either by vaginal or rectal examination etc., are sometimes very puzzling.

There are cases of appendicitis without any abdominal rigidity. For instance: (a) when the appendix is deeply seated in the pelvis; (b) when it is retro-cæcal and virtually extra-peritoneal; (c) in obstructed appendicitis specially soon after perforation. Immediately after the perforation the violent abdominal pains disappear. The patient says that he feels better. The hyperæsthesia diminishes and the rigidity is almost if not entirely absent. The most important guide in such doubtful cases is the pulse-rate which keeps on rising. Perhaps this is the most difficult phase of acute appendicitis to diagnose.

In an acute case in which the pain has come on suddenly and has become very severe, associated with an increase of pulse rate and a little rise of temperature, vomiting at the beginning and local rigidity perhaps with a sense of resistance, together with pain on the right side on digital rectal examination, the great probability is that it is appendicitis. Another sign that is sometimes helpful is the congestion of the right superficial circumflex iliac vein. As a general rule there will be some abdominal symptoms present—pain in the epigastrium or round the umbilicus, and [illegible]ting for instance.

[illegible]ribe briefly a few diseases that gene[illegible] good deal of trouble in diagnosis.

Ureteral Ca[illegible]erally becomes impacted in the lowe[illegible]ar the bladder. If it is on the right side and perhaps irregular in shape aud size, it gives rise to some pain simulating appendicitis. In such cases X-ray examination will be of great assistance and the urine when examined microscopically will show some blood cells. I have known of some cases of appendicitis where haematuria has occurred.

2. *Coli Bacilluria*: Pain in this condition ought to be referable to back and loins, but we often find it in the lower part of the abdomen and in the right flank. The urine shows on examination a haze of albumin, together with excess of leucocytes. Presence of B. coli is certainly a positive sign. Sometimes the acuteness of pain may be such that the surgeon may not feel justified to wait for the reslut of culture of a catheter specimen. To make a culture in general practice is not always possible. Associated with the pain there is always that temperature, rise of pulse rate and all the other signs and symptoms associated with appendicitis.

3. *Intestinal Worms*: More specially the round worms in the caecum, give rise to nearly all the symptoms of appendicitis. The vagaries of the round worms are well known. This is more often found in children and youngsters. The best guide under such circumstances will be an examination of the stools microscopically. Sometimes the patient may not pass any motion just at the time we want and an enema at that stage of the trouble, when there is some suspicion of existing appendicitis, is always

beset with the danger of perforation. One should bear in mind that the presence of round worms does not exclude the possibility of appendicitis.

4. *Dysenteric Ulcers*: Chronic dysenteric ulcers, specially the amœbic type are sometimes the cause of mischief as they simulate appendicitis in many respects. We have to remember that about 33% of amœbic ulcers are found in appendix and about 87% in the cæcum. These ulcers develop into abscesses to give additional trouble.

5. *Typhoid Fever*: I am referring to those cases that are not quite severe and bedridden. These are of mild infection. We know of some cases where the patient has had a perforation low down in the cæcum so that a local abscess has formed and the patient has gone through suffering from typhoid or para-typhoid has been operated upon for appendicectomy. Widal's blood test will be the best guide to clear our doubts in such cases.

5. *Abdominal Influenza.*—This is a condition which is sometimes supremely difficult to distinguish from acute appendicitis. One has to think of this possibility during an epidemic of influenza.

6. *Ruptured Lutein Cyst*: This sometimes is extremely difficult to diagnose. The patient is usually unmarried or recently married and childless. The signs and symptoms are similar to those of tubal abortion but the history of a missed period is absent and also the sign of soft cervix.

7. *In early pregnancy* and in some young girls just a few days prior to attaining maturity abdominal pains, vomitings etc., are sometimes noted. Ectopic pregnancy on the right side is another possibility but here one finds a history of a missed period, there is a soft cervix and pain and deep tenderness in the right iliac fossa but seldom rigidity.

8. In sub-acute and chronic lesions we have ileo-cæcal kink. Only a bismuth meal and a X-ray photograph, failing which a laprotomy, may give the clue to the right cause of pain.

9. *Salpingitis*: This, when acute, gives a surgeon a false impression of the state of affairs in the abdomen. The difficulties increase when both the salpinx and the appendix are inflamed. In pure cases of salpingitis there is a vaginal discharge and menstrual irregularities. Examination of a cervical smear may help to clinch the diagnosis sometimes. Gonorrhœal discharge is a very common complaint in women, and in those cases it is really difficult to decide which is which.

10. *Duodenal Ulcers*: It is here that many have made mistakes. Without the aid of X-ray photograph it is sometimes very difficult to arrive at a correct diagnosis. When the appendix is within the range of the angles between 9 and 3 of the clock, the referred pain is very near the duodenal region. In some cases the history of hunger pain is very indefinite and vague, and blood in the stools is not always possible to find. In two of my cases I swore that the pain was due to duodenal ulcers and did posterior gastro-jejunostomies only to be disappointed later on. The pain continued and the appendix had to be removed subsequently.

11. It should not be forgotten that pain in the right iliac fossa may be complained of by patients whose posterior nerve roots on the right side are irritated by bony or pathological changes in the lower dorsal or upper lumbar vertabræ, for instance from spondylitis deformans in an early stage, osteo-arthritis of the spine, infective changes in the spine as rheumatoid arthritis, and spinal caries with or without psoas abscess. These cases are chronic but the pains may be acute causing an emergency for treatment.

With all our care, wisdom and knowledge, we have made many mistakes. Many a lapratomy has been performed and many an innocent appendix removed in our ignorance.*

[*A paper read at the Madras Provincial Conference of the A. I. M. L. A., Vellore and received for publication on 9-2-'40.]

Quinacrine and Praequine

Pharmaceutical Specialities (May and Baker) Ltd., Dagenham, England, have sent us a copy of their booklet on QUINACRINE and PRAEQUINE, two important drugs for malaria treatment which have only been produced in Great Britain since the outbreak of war.

The combined therapy of these two preparations offers considerable advantages over the old quinine method of treating malaria. The duration of treatment is shortened, relapses are fewer, and the undesirable side effects of quinine are avoided. QUINACRINE is the schizonticidal agent given first to deal with the acute attack, and PRAEQUINE is administered later to prevent relapse.

We understand that a copy of the QUINACRINE/PRAEQUINE booklet will be forwarded to any member of the medical profession on request to :—Messrs. May and Baker (India) Ltd., 11, Clive Street, CALCUTTA, India.

THE
Indian Medical Journal

All communications regarding contributions, advertisements, books and reports for review, changes of address and non-receipt of the Journal should be addressed to: *The Managing Editor*, INDIAN MEDICAL JOURNAL, 131, Coral Merchant Street, Madras. It is important that the subscribers should report their change of address, if any, immediately to this office to ensure regular supply of the Journal.

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Vol. 34 | MADRAS: May 1940 | No. 5

The Criminal

"We no longer look upon the criminal as wild beast to be hunted down without pity or remorse. He is a man like ourselves, and we, fellow citizens, have to bear part of the responsibility for having made him what he is...The judge in passing sentence in olden days told the prisoner that society must be protected against such persons. I wonder whether a prisoner would ever ask the judge in return: But who is going to protect me against society?"—*Sir Maurice Gwyer, Chief Justice of India.*

This was the issue raised by Sir Maurice at the Indian Penal Reform Conference held at Bombay on Feb. 24, 1940, under the chairmanship of the former Home Minister, Mr. K. M. Munshi. The distinguished judges and lawyers who were assembled at this conference attempted to arrive at a *modus vivendi* by which the society could be protected against the criminal without inflicting irreparable damage on the better instincts and the basic personality of the latter. Sir Maurice maintained that social justice should not be denied to the criminal and that community or society should not treat one of its own members as an outcaste or an out-law for ever. Mr. Munshi stressed that the problem of the criminal should be studied and tackled in a comprehensive manner, and from different angles of vision: Crime in relation to social conditions, the agencies of prevention and control of crimes; criminal justice; the treatment of criminals, potential and actual; and the causes of criminal tendencies and their removal. As a pre-requisite to this new orientation of looking at the criminal, he emphasized that the jails should undergo a thorough change, although he warned that they should not be converted into comfortable sanatoria or public schools lest the deterrent to anti-social behaviour be removed and the state be saddled with an expenditure beyond its means.

While the legal, social and humanitarian aspects of dealing with the criminal have been well and truly discussed at this conference, we fail to find any evidence to show that the medical aspects of the criminal were discussed at all or that the medical men were invited for collaboration. We hope that this omission will be made good in future because we believe that the medical contribution on the subject will be of inestimable value in unravelling the tangled skein of human mind in criminal error. The collaboration of the Indian Psycho-analytical Society, whose headquarters is at 63, Dharamtala Street, Calcutta, may be obtained with benefit.

The conception that the criminal is suffering from some unknown and intangible mental (or moral?) disease, and that the criminality but its symtom-complex is, till the contrary is proved, a necessary hypothesis to build up our plans of treatment of the criminal. He must therefore be treated like the serious patient in the hospital, and should not be exposed to the biting ridicule of his community or to the extreme rigors of the prison house. He must be reclaimed and made whole.

Unfortunately, crimes have recently taken a variegated hue, and the plexus of their ramifications have become more and more complicated as the environment of each epoch of civilisation changed. The frankly ancient and brutally criminal murder for lust and lucre, the morbid charity of Robin-hoods at the cost of others, the open and high-way dacoities as a means of desperate living have more or less given place to scientific models of crime, subtle in execution, devastating in extant, difficult to trace and resistant to any known forms of treatmet, penal or social. In other words, while the origin of criminal mind is as old as man yet the nature and variety of

its manifestations seem to be determined by the immediate environments of the age and of the susceptible individual.

There is yet another aspect of crime. What is crime under one set of circumstances may not be considered so under another, and what might have been considered a crime yesterday may not be so today or tomorrow. The judicial murders as a form of retributive justice and the carnage of battle fields or its modern variant of high-explosive bombing of innocent people from the air as a form of military and aggressive nationalism are examples of the former, while companionate marriage and euthanesia are instances of the latter. Therefore it is difficult to give an exhaustive and universal definition of crime applicable at all times, much less of the criminal mind. Practically speaking, however, it may be defined as a behaviour which is detrimental to the safety of a community and contrary to the prevailing codes of normal living and action. The society protects itself against it by sending the aberrant to the gallows or the prison-house through special judicial and police organisations which it sets up for this purpose. But the fact that the criminal is but a creature of circumstances which he failed to overcome is now being realised all the world over. The Penal Reform Conference in India seems to be the first symbolic wave of this feeling which has reached our country, and we hope that a permanent organisation will be set up to study criminology in all its aspects and to formulate a workable plan to reclaim the unfortunate and unhappy criminal. And in this work, its medical aspect should by no means be disregarded.

Crime, in the experience of physicians, is a form of mental disease and sometimes even of bodily disease. But the difficulty is to prove it as such. The symptoms it exhibits are often explosive, more dangerous to others than to the criminal, and are preceded by a long period of incubation. Thus we fail to get the criminal for early treatment. Great are the difficulties of reaching the unconscious mind and still more of maintaining a free communication with it. We have no counterparts to cardiograph and X-ray in the matter of stydying the human mind and its reaction to environments and *vice-versa*. Psychoanalysis therefore has to depend on clinical experience, observation and acumen. Freud, who died recently, has postulated certain theories as to the causation of abnormal behaviour based on his extensive clinical observations. The œdipus complex, the libido, the ego, the super-ego, the death instinct are some of the more important Freudian corner stones. He would attribute egocentricity to narcissism, hostility to instinct of destruction, acquisitiveness to libido and so on, but he failed to realise the selective reactions in predisposed individuals of a specific social structure. Sir Maurice is not far from truth when he said with reference to our conditions:

> "The strange sense of fatalism which pervades Indian thought, the all-pervasive effect of caste and of community divisions, and a certain social and economic rigidity which follows from them combine to present what looks to me as *a field for-enquiry in relation to crime*" (Italics ours).

To these we may add, unemployment and proverty as the immediate causes of mental conflagration. More than half the crimes recorded in the police courts are but ugly phases of struggle for existence. A considerable percentage of the rest is due to a sudden outburst of emotion which seeks gratification in some form of cruelty or injury to others. Both these types are capable of successful treatment provided we spare the whip and save the soul by sympathy and enlightenment, forgiveness and forbearance, gentle correction and admonition. Only a small fraction of the crimes are deliberate, intractable and probably irremediable.

Till we are able to find a more effective substitute for prisons to protect society against violent depradations of the criminal we agree it will be premature to condemn this mode of punishment. But society has no excuse to tolerate violent methods of punishment of the delinquent. The capital punishment, the whip, the solitary cell, or the concentration camp are but the obverse of the same criminal coin, and indicate the preponderance of the animal in man, although he may call himself civilized. Any society which sets upon the task of penal reform must abolish these violent punishments, because they merely harden the criminal's mind and evoke responses contrary to our expectations. In fact, such a treatment gives rise to a sense of martyrdom, and the criminal may repeat his crime in mere exultation of winning cheap heroism.

Another suggestion which we venture to give is the abolition of long-term imprisonment. It creates a resentment in the criminal's mind and a resistance to reclamation. Separated for long from his family and society it gives a sort of stability and permanence to his anti-social instincts. This estrangement becomes a fresh cause for his mental erruption, and seeks satisfaction in the invention of new crimes or novel modes of prepetrating old crimes.

Mr. Munshi's suggestion of jail reform in our country must be taken up as the immediate objective of penal reform. The old type of jailors must be gradually replaced by men with better education and special training for the job. The Indian Psycho-analytical Society may be asked to train them, or any suitable institution may be created for this purpose. Norwood East and Hubert[1] recommend the creation of a special penal institution to serve four purposes: (1) as a clinic and hospital for investigation and treatment by psychotherapy; (2) as a centre for receiving cases proved to be refractory to the re-habilitating influence of the modern prison system, with a view to try psychiatric methods of treatment; (3) as a colony for detention of such cases who resist reformative measures, however specialised; and (4) as an observation and treatment centre for Borstal lads who are unsuited for ordinary Borstal training. One such institution for each province in India will give sufficient clinical material for study and observation, and for evolving a proper method of specialised forms of psychological treatment of crime. This is apart from the usual prison reforms which should be pushed on more vigorously than what is really the case now.

In this world of relative values, multiple virtues, manifold vices, unequal possessions and privileges it is probably too much to expect the total abolition of crime. But the retribution theory on which our penology is based is an aspect of a morbid civilisation which instead of retarding crime brazens it. The ever increasing prison population is a clear proof of its futility. Every soul is potentially divine, and its self-realisation should be helped as far as possible. This help becomes substantial and would take a practical shape if we accustom ourselves to view crime as a form of mental ill-health and imbalance and to devise measures and means to combat it. At any rate, we must guard ourselves against a muddled compromise betweeen vengeance, deterrence and remedial treatment.

[1] The Psychological Treatment of Crime. H. M. Stationary Office. 2 s. 6d.

The Rice Problem In India

Except in the Punjab, the staple food in other Indian provinces is rice, and so it is for half the human race. Since 1872 when the Japanese Naval Surgeon, Takaki, demonstrated that beri-beri was essentially a rice-eater's disease due, according to him, to an excessive proportion of rice in the diet, its nutritive value has been a subject of frequent investigation. Other theories followed in quick succession: rice-toxin, rice-bacilli, and fungus infection during storage in damp godowns. Rice mills were introduced into India somewhere in 1900, and spread rapidly because they saved labour, time and cost. Use of milled rice has today become almost universal. By the time it was found that milling deprived rice of its essential nutritive factors, rice mills had become too numerous to be controlled by legislation without serious economic disturbance and inconvenience, and milled rice was in high demand by the people. Researches were then made in India to assess accurately as to how far milling destroyed the nutrition of rice, and to what extent this deprivation was responsible for disease incidence. These researches have conclusively proved that milling removes more or less the germ and pericap of rice in which are contained its mineral and vitamin wealth, and that the use of such milled rice gives rise not only to frank beri-beri but also to various disorders which can be traced to relative degrees of deficiency of specific nutritive elements in rice. Aykroyd and others[2] give a brilliant and comprehensive review of the nutritive position of rice as used in India today and elsewhere. They go beyond mere confirming and summarising of previous observations, and tackle the question from many points of view. Nicotonic acid content of rice has also been analysed. It seems to share the same fate as other nutritive factors during the process of high-grade milling. Thus they indirectly raise the doubt as to the possibility of the use of denuded rice as a probable aetiological factor in Indian pellagra. This is re-inforced by the recent report of occurrence of cases of pellagra in Northern Circars where the use of milled rice is universal and the incidence of beri-beri highest[3].

The observations of Aykroyd and others are so important that they may be briefly told even at some risk of repetition. 75% of total food crops in India consists of rice. The nutritive value of the diet must therefore depend to a large extent on rice. Hand-pounding has given place to milling, and hence raw-milled rice is more commonly used than milled parboiled rice, undermilled or hand-pounded rice. Parboiling diffuses the nutritive element into the endosperm, and so parboiled rice, even when highly milled, retains most of the vitamin B_1 and nicotonic acid present in the unmilled grain. Therefore beri-beri is endemic only in areas in which raw milled rice is consumed.

[2] *Ind. Med. Research Memoirs* No. 32, 1940. Price Rs. 3-8-0.
[3] *Ind. Jour. of Med. Res.* 27, 3, Jan. 1940. Pellagra in India by T. K. Raman.

The deficiency of milled rice is further enhanced by Indian methods of cooking, such as repeated preliminary washings of the rice which cause further loss in its nutritive elements including calcium, phosphorous and iron, and the total rejection of *conjee* after cooking. Thus highgrade milling and wrong methods of cooking totally deprive rice of its nutrient elements: B_1, B_2 complex including nicotonic acid, calcium, iron and phosphorous, and other water soluble factors. They suggest four methods of improving the rice diet: (1) addition of cheap supplementary diets such as milk or skimmed milk, fruits, eggs and vegetables; (2) production of high yielding strains of rice by agricultural research; (3) popularisation of the use of parboiled rice; (4) prohibition of milling of rice beyond a certain degree—a minimum content of 1·5 microgram of vitamin B_1 is suggested as a basis of a standard of milling. This corresponds roughly to that of "once-polished" rice.

The incidence of beri-beri in India notwithstanding the universal use of milled rice, is not so great as one may expect, but the incidence of minor maladies, such as mild peripheral neuritis, anorexia, unaccounted malaise, burning feet and hands, tenderness of calf-muscles, difficulty in walking, lack of resistance to infectious diseases and so on, corresponds approximately to the degree and extent of consumption of milled rice. To these are now added the possibility of pellagra arising from the use of defective rice. The question therefore of prevention of the use of milled rice has to be tackled without undue delay by the Government in the interest of our national health. Provision of supplementary diet is one way out of the trouble, but it is not possible for all in this land of poverty. We have repeatedly pleaded in these columns for the prohibition of rice-mills. But the authors of the memoir under review do not recommend it, because it is not economically feasible. They however consider that milling of rice beyond a certain degree should be prevented by legislation, particularly in view of the experience that hand-pounding cannot be revived owing to the changed conditions of labour and the habit of the people. We hope that the provincial governments would set themselves to this necessary task of *fixing a statutory standard of milling of rice*. In other words, the Government should stop over milling and encourage under milling of rice. We cannot conceive of any other method of saving the health of the nation whose staple diet is rice but which is consumed in a state of no nutrition.

CURRENT COMMENTS

Alcohol as a Disinfectant

The bactericidal properties of alcohol seem to have been exaggerated. The profession has been complaisantly using it as a disinfectant for all and sundry purposes, particularly for the disinfection of skin, syringes, scalpels and rubber caps of bottled injectibles. It has been frequently shown and proved that it does not kill bacterial spores and that pure alcohol undiluted with a small percentage of water does not penetrate the bacterial cell and therefore fails to destroy it. The alcohol in the operation room has been frequently shown to contain even living spores. Bigger and others[4] have recently published the results of their investigation, although this was undertaken in connection with a case for damages against Wellcome Research Foundation Ltd., reported in our previous issue by our London Correspondent. They introduced a fragment of sputum containing streptococci into the lumen of a No. 16 needle. The needle was then dipped in absolute alcohol and was later fitted to a 5 c. cm. syringe. The syringe was used to draw one c. cm. of T. A. F. from a container, and they observed bubbles of air passing from the syringe into the bottle through this needle. This was of course inevitable. But the T. A. F. bottle from which part of the content was drawn was found ultimately infected with the same orgainsms as in the needle. This experiment was repeated and confirmed a number of times. They therefore conclude that alcohol is definitely unsafe for the disinfection of syringes and needles.

We think that Briggs and his colleagues have erected a strong case against alcohol as a disinfectant. Particularly is this important, because few practitioners can afford to change needles and syringes after each injection. They suggest autoclaving, but this is a counsel of perfection. It is easier said than done. To our mind, it appears, as indicated sometime ago[5], that boiling for 30 minutes would make the needles and syringes practically sterile, and that in the interest of the patient and the good reputation of the physician himself a little time spent over this process is time well-spent. Old needles must of course be replaced by new as often as possible, as the former are bad subjects for methods of sterilization by heat.

[4] *Br. Med. Jr.*, Jan. 20, 1940, p.79.

[5] Sterilization of Syringes in General Practice. *Ind. Med. Jr.*, June 1939, p.236.

SUPPLEMENT TO

THE INDIAN MEDICAL JOURNAL

MADRAS MAY 15, 1940 Vol. 2, No. 5

CONTENTS

Recruitment of Medical Licentiates for the Emergency Branch of the Indian Medical Department.

[We invite the attention of the medical licentiates to the following details of recruitment to and appointment in the Sub-Assistant Surgeons Branch of the Indian Medical Department. Forms of application in this connection will be gladly supplied to the candidate on application, in writing or in person, to his Provincial or State Civil Administrative Medical Officer.—Ed., *I. M. J.*]

Instructions to candidates regarding the filling up and submission of applications for appointment to the Emergency Branch of the Indian Medical Department, Sub-Assistant Surgeon.

1. Candidates should read these instructions carefully to see whether they are eligible before filling up the prescribed application form. The conditions prescribed cannot be relaxed.

2. The application form must be filled up in the candidates' own handwriting. It should be submitted to the Civil Administrative Medical Officer of the candidates' own Province (the Surgeon-General, Inspector-General of Civil Hospitals or the chief Medical Officer as the case may be). Government servants must submit their applications through the Head of the Department or office concerned, who will, if he considers the candidate eligible in all respect, forward it to the Civil Administrative Medical Officer of the province with his recommendations.

If a candidate sends his application by post and desires an acknowledgement, he must send the application by Registered Acknowledgement due. No application will otherwise be acknowledged.

3. A candidate who is found knowingly to have furnished any particulars which are false or to have suppressed material information, will be disqualified, and if appointed, will be liable to dismissal.

4. Candidates are warned that the application must be accompanied by all the documents mentioned in paragraph 15 of the application form. No other documents will be accepted in place of those mentioned therein.

Terms and conditions of recruitment to the emergency branch of the Indian Medical Department (Sub-Assistant Surgeons):

METHOD OF APPOINTMENT

The Sub-Assistant Surgeon required for the emergency branch of the Indian Medical Department will be appointed by a Selection Board from among candidates who have applied to the Civil Administrative Medical Officer of the Province for appointment. They will be appointed as Warrant Officers Class II in the Indian Medical Department, Sub-Assistant Surgeons Branch, for the duration of the war and for so long thereafter as the State shall require their services. These candidates will be on probation for a period of three months in the first instance and those found unsuitable will be discharged from the service. Recruitment to the Indian Medical Department Sub-Assistant Surgeon Reserve shall cease. Applicants will normally be required to appear for an interview at their own expenses, but the Board may waive the interveiw at its discretion.

Applicants will be required to execute a declaration in the attached prescribed form before their appointments are published in Part II orders.

QUALIFICATIONS FOR APPOINTMENTS

An applicant must:—

(1) be a male British subject, Indian domicile or descent, whose father (if alive) is a British subject or a subject of a State in India or (if dead), was at the time of his death, either a British subject or a subject of a State in India or a person in the permanent service of the Crown or a person who had retired from that Service, or a ruler of a subject of a State in India.

Provided that for a male British subject the requirments of this rule may be otherwise waived by the Government of India if they are satisfied that their observance would occasion exceptional hardship and the candidate is so closely connected by ancestry or upbringing with His Majesty's Dominions as to justify special treatment.

(ii) have passed the L. S. M. F. or L. M. P. examination from one of the recognised medical schools in India or some other examination accepted as higher than the L. S. M. F. or L. M. P. or as equivalent thereto.

AGE LIMIT

A candidate should not have attained his 35th birthday at the date of appointment. He may be married or unmarried.

RANK AND PROMOTION

The selected candidate will be appointed to the rank of warrant officer Class II and, if in all respects qualified and recommended, will be promoted to the rank of Jemadar after 5 years service in the warrant grade.

PAY AND ALLOWANCES

(i) A candidate will, on first appointment, draw salary at the scale laid down for Warrant Officers as given below:—

Classification.	Rates of pay per month.
Warrant Officers-Jemadars.	Rs. 70-75-5-95 (E. B.) 5-145.

(ii) Sub-charge allowance on the following scale will be admissible for the sub-charge of military hospitals:—

1st class hospitals.	Rs. 40 per mensem.
2nd class hospitals.	Rs 30 per mensem.
3rd class hospitals.	Rs. 20 per mensem.
4th class hospitals.	Rs. 15 per mensem.

(iii) He will be provided with free quarters or compensation in lieu, free water and lighting. On appointment he will be provided with a free issue of clothing and necessaries on the scale laid down for Indian Mounted ranks of fighting units and any replacement necessary subsequently will also be made free as and when required. In addition he will receive the allowance for haircutting, washing and repairs as is admissible to men of fighting units.

(iv) Free rations, or compensation in lieu of rations, is admissible to all sub-assistant surgeons in military employ.

(v) If a Sub-Assistant Surgeon is suffering from a disability contracted in, and by the performance of, military duty and is sent to a military hospital or is sent to his home, certified as incapacitated, pay may be issued at the discretion of the Government of India for a period not exceeding six months from the date on which the disability was incurred.

(vi) His family will be entitled to free accommodation or compensation in lieu, when not provided with quarters, and free water and lighting when the sub-assistant surgeon is on field service.

LEAVE

He may be granted 30 days' full pay leave in each year of service, if conditions permit such leave to be taken during the period of his army service If not taken during service, leave may be accumulated and granted before release from service, at the rate of 30 days per completed year of service or for broken periods one day for every 12 days of service subject to a maximum of 120 days.

Casual leave (upto 10 days at a time), leave on medical certificate and any special kind of leave introduced as the result of a state of war, will be admissible as for regular military sub-assistant surgeons. Leave on medical certficates will be on 3/4 the pay, but full pay leave at credit may be utilised for, or combined with leave on medical certificate.

A sub-assistant surgeon granted leave on medical certificate will be entitled to free conveyance to any place in India recommended by the medical Board.

TRAVELLING CONCESSIONS

On appointment he will be granted a Railway warrant for conveyance of himself from his home to the station to which posted. Conveyance for family will not be admissible. After appointment he will be entitled to conveyance under the Rules in passage Regulations (India) as for a permanent military sub-assistant surgeon in the regular cadre.

PENSIONS AND GRATUITIES

Disability and family pensions will be admissible at the same rates and under the same rules as are applicable to permanent and regular military sub-assistant surgeons.

A gratuity at the rate of one month's pay for each year of quilifying-service will be admissible. Broken periods will be reckoned at the rate of one day's pay for every 12 days service. The gratuity will be based on the rate of pay drawn at the time of release.

The term 'pay' will include the emoluments taken into account for purposes of calculating invalid gratuities in the case of permanent and regular sub-assistant surgeons. Such Sub-Assistant Surgeons as are appointed to the parmanent cadre after the war will not however receive any gratuity but will be allowed to count their war service for promotion and pension.

TERMINATION OF SERVICE

The services of a sub-assistant surgeon may be terminated normally at any time upto one year from the date the war is over, but his services shall at any time, be liable to be despensed with in the event of any misconduct on his part, of which misconduct the Government of India will be the sole Judge; and if his services are so dispensed with, he shall automatically forefeit the gratuity specified above.

On demobilization he will not be liable to serve in the Indian medical Department Sub-Assistant Surgeon Reserve.

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APPLICATION FORM FOR APPOINTMENT TO THE EMERGENCY BRANCH OF THE INDIAN MEDICAL DEPARTMENT, SUB-ASSISTANT SURGEONS.

1. Name in full (In block capitals).

2. Your father's name, postal address (if dead, give last address) profession and status.

3. Postal address in full. (Any change of address should be communicated at once to the D. G., I. M. S.. Imperial Secrerariat, South Block, New Delhi.)

* *Notice:—Candidates must make arrangements to see that comunications addressed to them at the address stated in their applications are redirected, if necessary. This office will make every effort to take account of changes in candidates' addresses but cannot accept any responsibility in this matter.*

4. Exact date of birth.

5. Province or State to which you belong.

6. Place of birth and Province or State in which it is situated.

7. *Are you a
   British subject ?
   Subject of an Indian State ?

8. *Is or was your father a
   British subject ?
   Subject of an Indian State ?

9. Did your father ever change his nationality ?

10. What is your
   (a) Community
   (b) Religion
   (c) Caste ?

* To these two questions answer Yes or No and cancel the words which are not applicable.

11. Medical institutions attended:—
   Name of School, College, etc.
   Date of entering.
   Date of leaving.

12. Name of examination passed and your position in the list of qualified candidates (If you obtained any distinction in any subject, give details).

13. Have you been employed anywhere after obtaining your medical qualification? If so, give full details of all appointments held e. g., where employed, for how long, nature of duties allotted to you, etc.

14. Have you undergone any special training in any subject? If so, give full particulars.

15 The following documents must be submitted with this application:—

(a) Age certificate (an attested copy from the Matriculation or the School Leaving Certificate or an affidavit executed before a 1st class Magistrate will be accepted as a satisfactory proof of age).

(b) An attested copy of the Educational certificate or diploma as a proof of having passed the requisite standard of professional exam.

(c) Attested copies of at least two certificates of character of which one should be from the Principal of the Institution where the candidate last studied and the other from a responsible person not being a member of the candidates' own family to the effect that he is of regular and steady habits and is likely, if appointed, to prove in every respect creditable to the Indian Medical Department.

Note:—Copies of the documents mentioned in para 15 of the application form should be attested by a gazetted officer. Applications which are not accompanied by these documents, duly attested, will not be considered.

DECLARATION TO BE SIGNED BY THE CANDIDATE

I hereby declare that the statements in this application are true to the best of my knowledge and belief and that I am a:—

(a) British subject domiciled in India.

(b) British subject of European or Indian descent domiciled in Burma

(c) a ruler or a subject of a State in India.

Date Signature.

Srike out the two items which do not apply to you and retain only the one which applies to you.

FOR CANDIDATES ALREADY IN EMPLOYMENT (GOVERNMENT OR PRIVATE)

(To be endorsed by the employer).

Forwarded to the Surgeon General with the Govt., of..... ..... or Inspector-General of Civil Hospitals..... .....or the Chief Medical Officer .....The character and conduct of the candidate, so far as I am aware, are satisfactory and when and if he is appointed his release will be agreed to.

Signature of employer.

Station.....
Dated..... Designation.

REMARKS OF THE CIVIL ADMINISTRATIVE M. O.

A Comparative Study of Different Systems of Medical Relief—Foreign and Indian*

Dr. A. Viswanathan

(2)

Medical Relief in Great Britain

RELATIONSHIP BETWEEN THE PROFESSION, THE GOVERNMENT AND THE PEOPLE

The countries I am going to refer to this evening are (1) the United Kingdom (2) Germany and (3) the U. S. S. R. Let me say here, just to avoid repetition, that one of the aspects of medical relief, viz., the mutual relationship between the profession, the Government and the people, is in a stage of fair degree of satisfaction in all these countries, but it has been won by a hard fight covering over a long period of years with the powers-that-be and with that invisible monster, called ignorance and apathy of the people. The degree of such mutual response certainly differs in each of these countries but the average minimum of co-operation between these three important participants in medical relief is quite satisfactory. But it is not so in our country. The profession is out of touch with tha Government and the people. Not that the profession has voluntarily abdicated its duty but that it is so ill-organised, so rent by divisions and jealousies due more to historic than to internal causes, and so timid that it does not make its voice felt. The Government is a foreign one and is not very anxious to utilise the energies of the profession. Our people, as a result of foreign rule, has lost their brawn and brain and are almost in a state of helpless dementia, and therefore do not know what is good for them and do not ask for benefits boldly. Men and things are, of course, rapidly changing in our country for the better, but my description of the present though comprehensive and sweeping is not far from truth.

CONDITIONS IN GREAT BRITAIN

The other factors which I had alluded to in connection with my criteria of medical relief yary widely in each of these foreign countries under reference. The population of Great Britain is about 50 millions and the number of medical practitioners is about 62,000. This gives a ratio of one medical man to 800 of the population. Medical Research in that country was for a long time in the hands of certain hospitals and individuals, and suffered from want of co-ordination, central planning and substantial Government support. This was rectified after the last Great War, and a Medical Research Council was established in the year 1918. It spends nearly half a million pounds a year derived from parliamentary grant and private contribution, and is incessantly engaged in applied research on diseases and drugs of topical interest while academic and basic researches, though not neglected, are yet kept in the back-ground, and as its 1937-38 report records: *it has got one eye on wisdom and the other eye on knowledge.* This Council is entirely under the control and guidance of the Ministry of health, and the personnel is appointed by the Health Minister after due consultation with the research departments of the University medical schools and hospitals, and the British Medical Association.

Medical education in Great Britain, unlike in other Western countries, is of the dual model, although the substance of education given both by the Universities and the Examining Corporations like the College of Physicians and Surgeons of London, Edinborough and Dublin is the same. Medical education as a whole, however, is more academic than practical, more of the academic examination type than of the test of practical abilities. In this respect, France, Germany, the U. S. S. R. and the U. S. A. are much better inasmuch as they follow a system which aims to make the medical students rather practical than academical. The post-graduate medical education in Great Britain is not well-developed, and it is only during the last year that the Ministry of Health has given effect to a plan of a short course of post-graduate education for the panel doctors

*The Second part of the lecture delivered at the Stanley Medical College Association, Madras on 18th Jan. 40. The preliminary part was published in the April Supplement.

out of the revenues of the National Health Insurance. In Germany and the U. S. S. R., post-graduate medical education is made compulsory by statute. On the whole, however, medical education in Great Britain, though I would be the last man to recommed it to our country, has produced an efficient profession, in general as well as in specialistic practice.

The Public Health department of Great Britain is almost entirely municipalised by the Public Health Act, and the Ministry of Health has got statutory powers to intervene in cases of mal-administration. The department is staffed entirely by paid officers. Its development on popular lines, and the aggregate effect it has produced on the health of the population is one of the romances in modern preventive medicine. During the last year, the death from cancer alone reached a staggering figure of 68,000 and it was said that it was an under-estimate. This question was at once taken up by the Ministry of Health and he induced the Parliament to pass the Cancer Act of 1939 by which a statutory duty was imposed on all the county councils to arrange facilities for early diagnosis, and treatment of all cases of cancer in their respective areas. The problem of diphtheria is still unsolved, because the Parliament does not yet want to enforce compulsory immunisation. So also the problem of acute poliomyelitis. Plague, small-pox and typhoid which were once the scourges of that Island have been almost eradicated, and this is substantiated by the fact that during last year there were only three deaths from small-pox and 163 from typhoid.

The organisation for medical relief is made up of many units. The first and foremost is the National Health Insurance which employs 20,000 panel practitioners, serves 17·119 millions of people, and spends 7·85 million pounds towards capitation fees of the panel doctors, and the medical, maternity, old age and other benefits for the insured. Yet it is not so comprehensive an insurance and does not cover as complete a medical attention as it is in the case of German Health Insurance. During the last two years, the British Medical Association has been evolving a more complete scheme of National Medical Service and suggesting the same to be incorporated in the existing National Health Insurance Act. This, however, had a mixed reception in the profession, although it was ratified at the last Aberdeen Session of the British Medical Association. The opposing group maintained that the work and terms imposed on the panel practitioners were so cruel, and that the medical relief given under the stringent provisions of the Health Insurance Act, made worse in working by the regional Health Insurance Committees, was so ephemeral that if the British nation wanted to have an effective, extensive and sound system of medical relief the State must take charge and share the full burden rather than leaving it to insurance, voluntary and municipal hospitals. This group lacked influence and power to make itself felt, but by a strange irony of fate and under the stress of the present war emergency in that country, what it wanted has mostly become an accomplished fact. This has been one of the strangest and silent revolution in British Medicine of which the Indian Medical Profession is not yet aware owing to its usual apathy and indifference. Let me tell you this story in the words of the London Correspondent of the *Indian Medical Journal*. It is staggering because the Britishers are well known for, and rightly and deservingly credited with, sucessful voluntary efforts, particularly in the field of medical education and hospital organisation with little or no intervention from the Government.

"British medical services, before the war, had a world-famous reputation. It is possible that war-time reorganisation may be responsible for permanent improvements which will maintain and increase that reputation.

Formerly, British hospital services were of two kinds—voluntary and municipal. There were roughly 900 of the former and 1800 of the latter.

The voluntary hospitals were started by charity contributions, and in many cases were not allowed by the terms of their foundation to charge fees. They often specialized in some particular from of complaint, such as those associated with the eyes; with ears, nose and throat; or the chest. In addition they were directed by leading specialists in these complaints and were able to obtain private practice as well as prestige from such appointments.

The municipal hospitals, on the other hand, were maintained by local taxation and had full-time staffs. The doctors were paid comparatively low salaries—£350 to £500 a year—much below what a specialist would have to earn in order to maintain his consulting rooms.

The support given to voluntary hospitals was magnificent, but for some years before the war this system had been working with difficulty. As the number of voluntary hospitals increased, so, automatically, did the number of specialists in Harley Street, the famous throughoufare in which the majority of great specialists have their consulting rooms, gradually became over-crowded. The prospects for the specialist also decreased. Moreover, as the voluntary hospital services improved, the middle classes (who could not afford to pay a specialist) were more willing than ever to enter the public wards of the voluntary hospital where the hospital specialist worked, rather than go to a private nursing home.

This also increased considerably the voluntary hospital expenses. For these reasons it was possible that the voluntary system might soon have broken down in any case, and that a good deal of hardship may have arisen from the resulting dislocation.

But at the outbreak of war, the British Ministry of Health took over both the municipal and the voluntary hospitals in order to provide the 300,000 beds necessary for possible air raid casualties. The Ministry is now paying the doctors (many of them specialists) as well as maintaining the voluntary hospitals. The immidiate future of these institutions seems secure, and it is difficult to believe that when the war is over they will return to the old haphazard system of relying on voluntary contributions.

But state support for the voluntary hospitals is only one of the advantages which war has brought. Under the old system, the specialized hospitals were crowded into London without regard for the needs of the rest of the country. This fault has now been corrected by dividing Britain into eleven regions, each with a centre that can become the centre of a peace-time medical service.

Another advantage under the new system is that the big hospitals have only small casuality clearing stations in London, the main base hospitals being out in the country. Obviously a hospital in the country can be more spacious, more restful for the patients, and cheaper than one in town. What far-seeing doctors have been striving to attain for years, the British Ministry of Health have accomplished in a few weeks."

And the London Post-Graduate Medical Journal believes that this revolution will have far-reaching effects on the personal relationship of Medicine and the State and hopes that the great voluntary teaching hospitals will retain at any rate a partial autonomy, although their staffs will become full-time men under the new scheme.

So when peace comes to prevail in Great Britain all the Hospital Medical Relief will be almost entirely in the hands of the Government, not owned by private agencies, nor manned by Honorary Medical Officers, but owned, run and guided by the Government and staffed by full timed paid medical officers. Thus the British model which the Madras Ex-Minister of Health tried to imitate in part, and in my opinion imitated badly, has been sunk in the English Channel as a war-time measure with the sure hope of becoming a peace-time organisation. But there is no doubt that the voluntary and municipal hospitals of Great Britain have done yeoman service to the nation, and so also the large-hearted and self-sacrificing staff of these hospitals. Notwitstanding this, they have to succumb, because such hospitals and such honorary staff of these hospitals cannot by the very nature of their organisation stand the strain of great emergencies such as the one that is being faced in every known country in the world today. This proves my dictum which my friend Dr. Rajan, the Ex-Minister of Health, refused to accept even as a matter of theory that medical relief in all its component parts such as health insurance, hospital medical relief, and even the regulation of private practice should be entirely under the control and the guidance of the Government.

Thus you will find that in Great Britain the state and the extant of medical relief, in terms of my criteria, is fairly satisfactory. Medical research has virtualiy directed the work of preventive and curative aspects of medical relief along practical and profitable channels. Medical education has given that country an efficient medical personnel. The National Health Insurance covers the elementary medical requirements of over 20 million persons. The 900 voluntary and the 1800 municipal hospitals cover the requirements of advanced and specialistic types of medical relief of nearly 10 to 15 million persons. Private hospitals and nursing homes, and individual private practice cover more or less the balance of the population. It would, therefore, be not altogether incorrect to conclude that there are few British people who do not obtain medical help through some agency of medical relief or other.

The Role of the Medical Editor

[Following is a summary of selected speeches made at a meeting of the editors of State Medical Journals, New York on 17th Nov. 1939. The rights and obligations of a medical editor in his relation to the public and organized medicine are effectively brought out in these speeches. A similar conference of medical editors in India would afford an occasion to take stock of our situation, and help in establishing a chain of medical journals with a definite policy towards organised medicine, the public and the Government. If there is sufficient response to this appeal, the editor of this journal is willing to take up the responsibility for starting an Association of Medical Editors. Ed.—*I. M. J.*]

SAMUEL J. KOPETZKEY, M. D., EDITOR,

New York Medical Week

What is an editor? One who edits; one who makes the selection, preparation and the arrangement of material for publication; one who prepares for use or publication by reviewing, compiling, collecting and correcting; one who has been charged with the responsibility of a department of a newspaper or publication; one who writes editorials. Here tonight we are less concerned with these routine duties—we take them in our stride and either competently or indifferently "carry on."

What constitutes an editorial? This is an article in a journal or publication presumably written by the editor or his subordinates and published as an official argument or expression of opinion. It is on this aspect of editorship that I want to concentrate your thoughts and evoke your reactions. The success of a journal or publication is not based so much on its informative articles—although they too are important—as it is on the editorial expression of opinion. The articles are of use to the medical profession by reason of their novelty, their ingenuity or their report of completed research, as well as because of the interest which recorded laboratory data and clinical bedside observations hold for the average run of the medical journal reading public. But only that medical publication reaches distinction, attains prestige and wields influence whose editorial pages make it a journal of opinon. Where you find a great medical journal of opinion, there you invariably find that the printed page reaches the light through the shadows cast on it by a competent editor. An editor is as great as his ability to bring to his readers those facts and opinions which they had but were unable clearly to express. In presenting to them their thoughts anew an editor is great if he can bring them back to his reader in an angle which will cause him to fall into line with the policies of the publication. When done with skill, this may frequently cause the reader to do "an about face."

Among us who are editors of journals, in the interlocking chain of constituent bodies of this great American Medical Association, the editorial message naturally must be based on adopted policy of the organisations we serve. The editor must be anonymous. If his editorial is not unsigned and anonymous, it becomes the opinion only of the one who signed it and, when quoted, it is quoted as his opinion. It is a fundamental formula in democratically controlled and run organizations that the association—the aggregate of its members—and their voice are more important and of higher value than that of any one officer or individual within the organization. So too with our publications, the journal itself is greater than any of its editors, and it—the journal —must express itself and it must not express or enhance the editorial writer. If perchance what the editorial page says is good, rings true and carries a potent message, then the journal should be credited, and the journal is quoted and attains prestige.

A real editor—one who knows, lives and feels the worth of his job—rejoices in the glorious anonymity which good editorial writing implies. An editor is presumed to know thoroughly the topic on which he writes. So comprehensive should be his grasp that he should be able to deliver his message in a few pungent paragraphs. It is a truism that the better the mastery of any topic, the less will be the number of words necessary to tell its story. Thus the editorial becomes distinguished and differentiated from an article written on the same topic. Reiteration is the essence of teaching. Hence it is within the realm of good editorship to repeat in different form patterns of words the same message over and over again. Truths held sacred, traditions hallowed by time and usage, and policy which is being stressed —these lose nothing in being retold and re-emphasized. Every truth and every policy has many facets. One aspect and one elemental factor should be the backbone of each repetition of the editorial comment.

An editor must be entirely untrammelled and free to express himself. This freedom should range far and wide but not extend beyond the framework of adopted policy. Intramural groups and political blocs must never be favoured, one above the other. They all must by tolerated. All must have the editor's sympathetic ear, but no one must control his potent pen. His office must never be used as an intramural stepping stone for the almost unavoidable political groupings and ambitious aspirations of one sector of the membership over that of another, since the whole membership is actually the editor's collective employer. He serves all of them best when he remains an observer, somewhat aloof, intensely sympathetic and yet always beyond intramural politics. Policies are greater than people, and problems always outweigh parties.

The end to be achieved by the medical editor goes further than merely to educate both public and profession for co-operation on accepted policies only. He must prepare groundwork, pave new highways, light up darkened avenues of thought for the appreciation of needs for change in policy and in the development of policy. He must do this even though some of these changes are generally felt to be unpopular with the profession at the given moment.

The medical editor should avoid the use of generalities to help him win his fights. Facts and figures are always the best arguments, and the editor himself should never be fooled by generalities and slogans. Slogans are the verbal anesthetics which lull intelligent apprehension of factual data into discards. Most slogans are actually trite phrases framed to nullify the necessity for thinking. They are put forward in the effort to have the casual reader substitute them for conclusions arrived at by deductive reasoning. The editor himself must scrupulously avoid employing slogans. If worthy of the editorial pen he wields, his readers have a right to expect better things than that from him. The medical editor naturally must be a student of medical affairs. His studies should be almost wholly objective; he should carefully examine every proposal no matter how fallacious or fantastic it may seem. There may be some germ of good in it somewhere, and if such is found that little good, no matter how small, should be conserved for incorporation in editorial policy. Our constant effort is to bring comprehension of better methods and technics to the profession so that the public welfare is better served.

Organized medicine can speak publicly through our columns in a voice that will be heard and heeded. Organized medicine needs no camouflaged pressure group to lead its fights toward better medicine and higher grades of medical care or even to popularize the development of its technics for delivering medical care to the indigent and the near indigent, who are separated from receiving such care by financial barriers. Organized medicine, free and unafraid and "in the open," can advocate its own considered judgments on such questions.

DR. MORRIS FISHBEIN, CHICAGO, EDITOR, JR. OF A. M. A.

I have written many editorials in my time, including editorials not only for *The Journal of the American Medical Association* but also for a considerable number of other publications. Any editorial, to reach the people and to animate them to action, which is the purpose of an editorial, must have fire, must have "go", must have life. Many editorials in medical journals do not have life, do not have fire. You cannot put fire in an editorial by using what used to be called "namby-pamby" words. You must use words that have fire. I think of the fellow who was brought into court by an old woman. He was working with a wire crew back of her house; the fellow on top who was soldering the wire managed to drop a little hot lead which went down the back of the neck of the boy below, concerning which he made some enthusiastic remarks. She hauled him into court and said he had used language such as she had never heard before.

The judge said "Just what did you say?"
He said "When that hot lead went down my back I looked up and said 'You oughtn't do that, Alfred!'"

Every once in a while you must speak strongly. Some people will resent what you have written. They will say "It was not in good taste. He should not have been so strong; it hurt." It was intended to hurt. It was intended to get results; the fact that there was remonstrance shows that it was effective. There have been innumerable books and articles written on the construction of editorials. There is a standard form for an editorial, particularly a scientific editorial. Begin by stating the question. Next discuss the evidence, that is, the data to which Dr. Kopetzkey refers. Then draw the question. I do not read every editorial in all of the state medical journals, but I read many of them. I go through all of the state medical journals every month as they come out. The improvement that has taken place in State medical journals, in the last twenty years, is so tremendous that it is almost inconceivable to any one who has not watched the gradual evolution. As to the throw-away medical journals, that should disappear entirely from the medical scene. They represent a cancer in the field of medical publications. The entire medical profession has a responsibility in relationship to these publications. What they print in general is vicious in that they oppose organized action by stimulating discontent. What they do in the way of fostering advertising that is unscientific, in many instances, is vicious if not fraudulent. These magazines appeal to the lowest instincts of their readers. They dish out the kind of material your own state journals would not and could not publish. A periodical which copyrights its material can protect itself against the plagiarism that is involved in lengthy quotations in any other publication. Where they take a few words from an article and rewrite them in their own language there is usually not violation of copyrights in my opinion.

Re-organisation of Hospitals in the United Provinces

Report of the Sub-Committee appointed under resolution No. 6 of the Medical Re-organization Committee meetings held at Lucknow, on the 24th and 25th January, 1939.

[Following is a full text of the report, excluding the details of the Scheme re: cost, rules etc. Our readers are requested to send short criticisms of the same for publication in the Journal so that we may pass them on to the members of the Committee and the U. P. Government for their consideration. It would be convenient if they are sent to this office on or before 10th June 1940. —Ed., *I. M. J.*]

INTRODUCTION

The state of affairs existing in the hospitals in this province at present is far from satisfactory. The public take little or no interest in them and have even less confidence. The institutions are virtually the monopoly of the paid services and the independent medical profession has no opportunity of being associated with the work in them on any acceptable terms. The hospitals are, as a rule, ill-equipped, under-staffed, and ill-provided with funds. It is, therefore, not surprising that the public have no confidence in them and complaints are common.

The principal fault of the present system lies in the fact that the public have no contact with the affairs of the hospitals and are not thus able to take a direct interest in them. To remedy this, it is necessary that the management and the administration of the hospitals should be brought under local managing committees composed of representatives of Government, local bodies, medical profession, and the charitable public, the right of general supervision remaining with Government as at present. The medical staff too of the hospitals should be drawn from the independent profession as far as possible.

With these objects in view, the Government of this province recently appointed a committee to consider the matter and advise them as to the action which should be taken. The committee met at Lucknow on the 24th and 25th January 1939, and under its resolution No. 6 appointed a sub-committee consisting of Major-General D. P. Goil and Dr. Bhupal Singh with powers to co-opt additional members to work out the details of the scheme for the reorganization of hospitals in the United Provinces under hospital Committees and with honorary staff as envisaged in resolution No. 5 of the committee. Captain R. N. Bose, Provincial Secrtary of the United Provinces Provincial Branch of the Indian Medical Association, was co-opted as a member.

We the members of the Sub-Committee beg to submit the following scheme agreed to by us unanimously:

The main features of the scheme are—

(1) The whole scheme has been divided into two parts—

(a) Medical relief in urban areas comprising the district hospitals and tahsil hospitals,

(b) Medical relief in rural areas comprising the establishment of rural dispensaries and setting up of subsidized medical practitioners.

estimate it to be roughly two-thirds of the total population of the province. This will give us a figure for rural areas of about 33 millions. We consider that a population of not more than 20,000 can be catered for satisfactorily by one dispensary. The province will thus require about 1,650 rural dispensaries. In terms of area, we estimate each dispensary will serve an area within five miles radius round the dispensary.

(2) We estimate ths cost of a rural dispensary to be as follows :

(a) NON-RECURRING

		Rs.
(i) Dispensary building	...	200
(ii) Furniture	...	50
(iii) Equipment	...	150
(iv) Quarters for medical officers	...	200
(v) ,, ,, compounders	...	100
(vi) ,, ,, servants	...	50
Total	Rs.	750

(b) RECURRING (YEARLY)

		Rs.
(i) Pay of medical officer at Rs. 50. per mensem		600
(ii) ,, ,, compounders at Rs. 20 per mensem		240
(iii) ,, ,, servants at Rs. 10 per mensem		120
(iv) ,, ,, sweeper (part-time) at Rs. 2-8-0 per mensem	...	30
(v) Medicines	...	300
(vi) Dressing and surgical requisites	...	100
(vii) Contingencies	...	80
(viii) Upkeep of buildings	...	30
Total	Rs.	1,500

(3) The cost of maintaining so many dispensaries in the province will naturally be very large and the question arises as to how the money could be found. We do not think it would be practicable for their Government or the local bodies to find the whole of the money from their resources. We would suggest the following arrangement for raising the money :

(a) The initial non-recurring cost (cost of building and equipment) which we calculate roughly at Rs. 10,00,000 (rupees ten lakhs) should be met wholly by the Government being spread over a period of five years on the basis of a 5-year plan, so that a provision of Rs, 2,00,000 (rupees two lakhs) will have to be made each year.

(b) The recurring cost of the dispensary, which we have calculated at Rs. 1,500 yearly, should be shared between the Government and local bodies on the one hand and the local public on the other. We would suggest that the pay of the medical officer in charge should be provided by the Government and the local bodies in equal shares between themselves. The remaining Rs. 900 or roughly Rs. 1,000 should be raised locally. This, we think, can be easily done by making a levy of annas eight per harvest per family, capable of paying the amount without undue hardship (of course well-to-do families would be free to contribute larger sums as subscription or donation according to their means). We reckon that there would be at least one thousand such families within the area served by each dispensary. The duty of raising the money should be imposed on the local panchayat in whom will ultimately vest the management of the dispensary.

(4) In view of the large area and population served by each dispensary, the medical officer in our opinion, will be fully occupied with medical relief work alone and will have no time left for any preventive work. This should be arranged for separately by the Health Department.

(5) In order to attract capable doctors to take up rural work, it is suggested that three years' satisfactory work as medical officer of rural dispensary should give special claim to the medical officer concerned to be considered for appointments as Resident Medical Officers in tahsil or district hospitals and for other appointments under Government.

(6) Subsidised practitioners—We are not in favour of subsidising practitioners for settling down in rural areas, as in practice the system leads neither to acceptable economy nor to efficiency.

MAJOR-GENERAL D. P. GOIL

DR. BHUPAL SINGH

CAPT. R. N. BOSE.

The Drugs Bill in the Central Legislature

[The Bill was finally passed on April 5, 1940 after a heated discussion. Sir Bajpai, Member in charge of the Bill, was very accommodating. The composition is now somewhat enlarged, though still unsatisfactory. The Indian Medical Association and the Indian Section of the British Medical Association gain one seat each in the Drugs Technical Advisory Board.—Ed., *I. M. J.*]

In the Central Assembly, 4th April, Sir G. S. Bajpai moved consideration of the Bill to regulate the import, manufacture, distribution and sale of drugs, as reported upon by the Select Committee.

Sir Girija Shankar said that he would reverse the well-khown maxim about the best form of defence and proceed on the principle that the best form of offensive was to be on the defensive. Replying to some of the criticisms of the Bill, he referred to the complaint against the absence of any provision for the regulation of pharmacy. He reaffirmed on the floor of the House the assurance given to the Select Committee that the Central Government would take steps immediately to consult Provincial Governments, whose co-operation in the matter was essential, with a view to undertaking legislation to control the pharmaceutical profession. As regards the criticism that there was no control over the Unani and Ayurvedic systems of medicine, he referred to the observations of the Chopra Committee that unless the materials used in the drugs of these two systems were scientifically investigated and standardised, control was impossible.

As for the composition of the Drugs Technical Advisory Board, the Government had met the demands to the extent possible and the Board would now have a non-official instead of an official majority and the Government had undertaken that as soon as legislation regarding pharmacy was passed and the profession was better organised, an elected member to represent the pharmaceutical profession would take the place of the nominated member for whom provision was now made.

Sir Girija Shankar acknowledged the co-operation of all non-official members of the Select Committee and in particular paid a tribute to Sir Henry Gidney who had attended meetings of the Committee in spite of weak health.

DUMPING GROUND OF SPURIOUS DRUGS

Sir Henry Gidney described the Bill as one of the most important as it dealt with the health of the land which, in his view, was more important for India's development than wealth. India, he observed, was now becoming the dumping ground for spurious and inferior drugs. The Bill supplied all that the medical profession wanted and when the Pharmacy Bill was also framed and passed, they would have a complete piece of legislation. He stressed the advantage of ensuring the uniform application of the provisions of the Bill in all provinces.

Sir Henry paid tribute to Sir G. S. Bajpai and to Col. Chopra for their work in connection with the Bill.

Dr. R. D. Dalal, welcoming the Bill, suggested action against secret remedies, both indigenous and foreign, and urged that a tax should be levied on these remedies. He explained the harm done by drugs whose composition was unknown and pleaded for action to analyse, standardise and catalogue indigenous herbal drugs.

Dr. Dalal also urged that in these days of prohibition, the sale of medicated wines which were deleterious to health should be prohibited. There was a danger, he thought, of people under prohibition regimes taking to dangerous narcotic drugs and steps should be taken to meet that danger.

Mr. J. W. Boyle (European Group) thought that the Pharmacy Bill should really have come before the Drugs Bill and he hoped that not only would the Government carry out the promise to advise Provincial Governments about the desirability of the Pharmacy Bill being introduced as early as possible but that all members of the House would use their influence in their own provinces to secure provincial assent to the introduction of that Bill in the Central Assembly. He referred to instances of spurious drugs and said that in a particularly malaria-ridden part of the Punjab, the quinine tablets, the suppliers of which were reaping a fortune, were found to be pure chalk. Such examples could be multiplied in all parts of the country and he urged those who advocated the postponement of the measure to consider the harm that the present state of things, which the Bill was designed to remedy, was doing to the country. He also urged that the Act should be applied simultaneously throughout India.

"A DISHONEST MEASURE"

Prof. Banerjee quote the views expressed by Dr. G. V. Deshmukh that the Bill was a dishonest measure. The previous draft of the Bill was one which could have been acceptable to the Congress Governments which were in power at the time but now that these Governments were out of office, the Bill had been changed. The Bill also differed from the Chopra Committee's report. He asked that the Bill should either be postponed or be improved in the light of amendments.

Maulana Zafar Ali severely criticised the omission of the Unani and Ayurvedic system from the scope of the Bill and asked the Government if they knew that it was Muslims who kept alive the knowledge of medicine when the whole of Europe was steeped in darkness and that the Unani and Ayurvedic systems were flourishing and meeting the needs of millions in large Indian States. How, he asked, would drugs imported from Indian States be treated ?

Maulana Zafar Ali wanted that the consideration of the Bill should be postponed for two years and in the meantime, witnesses representing the Unani and Ayurvedic systems should be invited to put forward their point of view.

Col. M. A. Rahman pointed out that about 90 per cent of Unani drugs were untested either clinically or otherwise, and if the object was to build up a pharmacopoeia, it would take at least five years and when it was ready it might be brought forward for inclusion within the scope of the Bill. Pleading for the compilation of this pharmacopoeia, he asked that the Government should, as soon as the Drugs Techinical Advisory Committee was appointed, set up a sub-committee to go into the question so that all the drugs in use in the country could be brought under control. He dealt with the spurious drugs which flooded the Indian market and quoted an authority according to whom some foreign manufacturers manufactured inferior drugs specially for the Indian market.

CHOPRA COMMITTEE'S RECOMMENDATIONS

Pandit L. K. Maitra strongly criticised the Bill and pointed out that all the three elected members of the house who were on the Select Committee (iii) appended a minute of dissent. The Bill would, therefore, go through without the consent of the elected members. It was professedly based on the recommendations of Col. Chopra bnt it ignored the most important of those recommendations. For instance, it took no notice of the recommendation that the whole body of the proposals made in the report should be given effect to as a whole and no piecemeal legislation should be attempted, and that efforts should be directed to the building up of an indigenous drug industry in the country. He did not consider valid the argument that the Central Government did not desire to trench on the autonomous provincial field and that was why a more comprehensible legislation was not attempted immediately. But the Chopra report was published in 1931 and the Central Government had time till April, 1937, to introduce a Bill on the subject without giving ground for complaints of intrusion into Provincial Autonomy.

Pandit Maitra had not concluded his speech, when the House rose till to-morrow.

Continuing the debate on the Drugs Bill, Pandit L. K. Maitra criticised the constitution of the proposed Central Technical Advisory Board and pointed out that similar bodies in other countries contained preponderating regresentation of manufacturers, importers and pharmaceutical chemists. He asked that similar representation should be provided in India also. He contested the statement made on behalf of the Government that the pharmaceutical profession in India was not organised. The profession was already organised and there were at least three associations in existence in the country. After all, he said, that profession would contribute a large part of the revenue to be derived from the operation of the Bill and was, therefore, entitled to representation on the Board. The Bill, Mr. Maitra feared, would help the import into India of larger and larger quantities of British products which he stated were inferior quality as they were not for use in England and were, therefore, not controlled by Drugs Board there.

Sir Zia-ud-din Ahamed pointed out that though Unani medicines were excluded from the scope of the Bill, he knew of cases in which Unani medicines were taken and sold under a different name in the market. He asked that this type of cheating should be checked. He suggested that no patent medicines should be imported or sold in this country unless their formulæ were given. He also referred to cases of doctors who professed to charge no consultation fees but prescribed and sold medicines at fabulous prices to those who came to them for consultation. That was another form of fraud which needed control.

SIR G. S. BAJPAI'S REPLY

Sir G. S. Bajpai, replying to the debate, emphatically refuted the suggestion that there was something sinister in the delay in bringing up the Bill. He emphasised that in all matters of this kind, the Government of India had to carry the Provincial Governments with them because it was not possible to regulate the manufacture and distribution of drugs in this country except with the co-operation of the Provincial Governments. That meant the creation of a special staff of inspectors and so on, which in turn involved expenditure and surely either under the old Act or the present one, the Centre would not have been justified in shouldering the financial burden without enforcing the provisions of the Act. As for the charge of dishonesty made by a member of the House, (Dr. G. V. Deshmukh, Congress member) Sir Girija Shankar observed that if that member sincerely believed that that charge was well-founded, he should have been present in the House.

Referring to the demand for uniformity of enforcement of the provisions of the Bill in all provinces, Sir Girija Shankar explained the constitutional obstacle under the Government of India Act in the way of the Central Government assuming power for such uniform enforcement and reiterated the assurance given to the House that the Government of India proposed to call together a meeting of the Central Advisory Board of Public Health to try and use their powers of persuasion so that the provinces and the centre should act in conformity with each other and observe both chronological and administrative uniformity.

POSITION OF INDIAN STATES

With regard to the question of drugs entering British India from Indian States, Sir Girija Shankar said that the machinery available to the Government would be utilised for the purpose of applying the preventive provisions of the Bill to those drugs. As for the suggestion that an administrative arrangement should be entered into with the Indian States to apply the provisions of the Bill to the States, he undertook to give it sympathetic and careful consideration.

It was true, said Sir G. S. Bajpai, that as some members had pointed out, the Bill as orginally circulated contained a provision for the representation on the Drugs Techinical Advisory Board of manufacturers, importers and distributors. But that did not dispose of the fact that in a body which was supposed to advise the Government as to the restrictions that should be imposed upon importers, manufacturers or distributors, it would be the height of unwisdom to give representation to those manufacturers, importers and distributors themselves. "You might as well say," he said, "that on the bench, one of the parties to a dispute should be given a power to adjudicate." On second thoughts, therefore, it was decided to give up the idea of representation of these trades but their advice was to be sought by calling them together on committees which the Advisory Board had power to set up.

Sir G. S. Bajpai finally indicated readiness to come to a compromise on the question of the constitution of the Board and also to the setting up of a consultative committee representative of the Centre and the Provinces provided a majority of the amendments which were really extraneous to the Bill were not moved.

The House passed the motion for consideration.

The Bill to regulate the import, manufacture, distribution and sale of drugs, as reported upon by the Select Committee, was passed in the Central Assembly with a few amendments.

On Pandit L. K. Maitra's motion the House agreed to the enlargement of the Drugs Technical, Advisory Board by the addition of an elected representative of the Central Council of the Indian Medical Association and an elected representative of the branches in India of the British Medical Association.

As a result of compromise, a new clause was, on the same member's motion, added providing for the constitution of a Drugs Consultative Committee. The clause runs as follows:—

"7 (1) The Central Government may constitute an advisory committee to be called 'the Drugs Consultative Committee' to advise the Central Government, the Provincial Governments and the Drugs Technical Advisory Board on any matter tending to secure uniformity throughout the provinces in the administration of this Act.

"(2) The Drugs Consultative Committee shall consist of two representatives of the Central Government to be nominated by that Government and one representative of each Provincial Government to be nominated by the Provincial Government concerned

"(3) The Drugs Consultative Committee shall meet when required to do so by the Central Government and shall have power to regulate its own procedure."

The House agreed to the proposal made by Pandit Maitra and accepted by Sir G. S. Bajpai that the two schedules to the Bill should be brought together into one single schedule and consequential changes were made in the relevant clauses 7 and 15.

APPOINTMENT OF INSPECTORS

On Sir Zia-ud-din Ahmed's motion, a proviso was added to provide that Inspectors to be appointed under the Bill *inter alia* to inspect premises where drugs are manufactured, take samples and prohibit sale of drugs which contravene the provisions of the Bill, should be persons who have no financial interest in the manufacture, import or sale of drugs.

With regard to the powers of the Inspectors, it was agreed on Sir Raza Ali's motion that an Inspector shall not take any action on the lines indicated above unless he has reported the facts to the District Magistrate or the Chief Presidency Magistrate and has been authorised by such Magistrate to take such action.

The period for which the Inspector is empowered to prohibit the sale of drugs was, on Mr. J. D. Boyle's motion, increased from 10 to 28 days.

During the third reading of the Bill, tributes were paid by Mr. Nairang and Mr. Nauman to the reasonable and conciliatory spirit shown by the member in charge of the Bill, Sir G. S. Bajpai.

The Bill as amended was passed.

(*Continued from page 66*)

therefore, confidently hoped that, on the occasion of Pharmacy Bill (Central) next September, the present Drugs Act will go through necessary amendments in order to be compatible with the Pharmacy Bill and to avoid duplication of work.

In the opening debate Sir Henry Gidney, a member of Select Committee, frankly admited that, although he was a doctor, he knew as much about the manufacture of drugs as he did about flying. With a few exceptions this remark appears to be generally true. It is therefore irregular to employ a doctor as a pharmacist, or a pharmacist as a doctor and such employment should be made penal insted of a being encouraged. The tributes paid in course of the debate to Colonel R. N. Chopra, to the members of the Select Committee, also to Sir Henry Gidney particularly for his helpful co-operation in attending every meeting of the Select Committee despite severe illness, are well deserved. The inner working of Sir Henry's mind is fully shown in his letter of the 18th March 1940, addressed to the writer:

* * * * Indeed to my miud, it ensures a passage of the Pharmacy Bill in the near future, as also the Board of Control, that is the "Drugs Technical Advisory Board" has been so altered as to include chemists on it, but, when the Pharmacy Bill is passed, more of the chemist profession will be included in it. Now I feel I have done my work, not only for the chemists but for the people of India. I look back with greatefulness to the very splendid notes you supplied me, without which I am sure I would not have been able to influence the Government to alter their minds and to expedite the introduction of Pharmacy Bill.

At present the pharmaceutical profession, as understood in the West, does not practically exist in India. But with the nucleus already available in the country in the person of several highly qualified pharmaceutical chemists with high qualifications, a great organisation will have to be created, and funds provided to give effect to the Drugs Act and the impending Pharmacy Act.

The Drugs Act (Central) 1940

A Review

● J. C. Ghosh, B. Sc. (Manchester), Principal, School of Chemical Technology, Calcutta

A Bill to regulate the drug trade in British India was introduced early by the Government of India during the last session of the Central Assembly and was passed by it with certain alterations on the 5th April 1940. The Select Committee made important amendments and obtained an assurance from the Central Government that they would immediately take steps for undertaking shortly a similar legislation dealing with pharmacy. The Drugs Enquiry Committee (1930) recommended *either a combined* Drugs and Pharmacy Act, or separate but *concurrent* Acts. If a Pharmacy Act is undertaken and passed by the Central Government next September and the Drugs Act remains inoperative in the meantime, the procedure though divided will achieve the same end as the Drugs Enquiry Committee had in view. This sort of legislation on an All-India basis has been a necessity here for years and is designed to open a new era of educational and industrial activities in the country if only it is worked by a right kind of personnel imbued with high ethical ideals as found in the pharmaceutical profession of the West. India is following the lead of Britain in many respects and will attain the same efficiency in pharmacy as obtained in that country under a Pharmacy and Poisons Act since 1847. This view point was stressed in the writer's article in the *Indian Medical Journal* of February 1938, and is dealt with *in extenso* in his recent booklet entitled "INDIGENOUS DRUGS OF INDIA" (1940). The points that are still found lacking in the Drugs Act are likely to be covered by an All-India Pharmacy Act in the near future, as is evident from the debate on the Bill.

The opening debate on the Drugs Bill, as summarised in the press report of the 4th April from New Delhi, leaves the impression that all's well that ends well. It is, however, too early to comment further until it is seen how the Drugs Act as passed actually works, what personnel are employed to enforce it, and whether an All-India pharmacy legislation is undertaken at the next Sepetember session of the Central Assembly with the previous concurrence of Provincial Governments. The Drugs Act will it is understood, remain inoperative until it is accompainied by a Pharmacy Bill, both working concurrently as recommended by the Drugs Enquiry Committee (1930). The position in respect of drugs is peculiar; and from the way the Drugs Bill alone was taken up it appears that the full implication of the Bill was hardly realised at the begnining even by its sponsor. In the first place it is difficult to define what a drug is when there are varieties, such as allopathic, homœopathic, unani, ayurvedic, indigenous, psychic, quack, adulterated, etc. The Drugs Enquiry Committee rightly confined their recommendation for legislation to allopathic drugs only. The restriction appears not enough to cover all the cases that may arise. In the draft Drugs Bill only two pharmacopoeias, namely, B. P., and B. P. C., were mentioned to include all drugs to which legislation refers, others being regarded as "patent or proprietary medicines". The pressure of public criticism induced the Select Committee to add words to enable other pharmacopoeias than the two named to be regarded as authoritative for the purpose of the definition.

Secondly, the amended definition still leaves cases unprovided for. Due to rapid scientific progress, many new drugs, not yet mentioned in any standard pharmacopoeias, are being introduced and it is difficult to judge for sometimes which of them are genuine and which are spurious or adulterated. Also there are several proprietaries which may claim to be either unani, ayurvedic, homeopathic, biochemic, or anything else, in order to be free from the operation of the law. Some slight amendments to clause 3 (b) and clause 3 (d) seen necessary to meet these cases.

Thirdly, the draft Drugs Bill made no provision for the representation of the pharamaceutical profession on the Drugs Techinical Advisory Board. This serious omission has been made good to some extent by the changes made by the Select Committee and by the assurance given that, when the proposed legislation on pharmacy is enacted, the Government will consider the amendment of the provisions of the present Act relating to the Advisory Board. In this connection it may be recalled that the difficult portion of the Drugs Act under review is not to fix a standard as to purity, this being already laid down in standard pharmacopoeias, but to determine how far the drugs on sale are up to the standard. This determination is not the business of the medical profession, who are concerned only with diagnosing, prescribing, or knowing the pharmacological action of drugs. It is the pharmaceutical profession who are recognised in all Western countries as the custodian of drugs, and are responsible for their identification, preparation, dispensing and efficiency. Any departure from this accepted procedure is uncalled for and objectionable. If this principle is agreed to, a revision of the composition of the Advisory Board seems necessary and this assurance given by Government will, it is hoped, be carried out in letter as well as in spirit.

Fourthly, according to the principle mentioned above it is necessary to specify in the Drugs Act that all work connected with the handling of poisons, the dispensing, manufacture, inspection, seizure and analysis (barring physiological assay) of drugs, as also the work of the Secretary to the Advisory Board should exclusively belong to the pharmaceutical profession. It was apparently feared by the Select Committee that, if all the alterations required were carried out, the Bill would be so changed as to necessitate re-publication causing further delay in enactment. It is,

(*Continued at foot of page 65*)

MEDICAL COUNCILS

Medical Council of India

The Medical Council of India met for its Thirteenth Session on the 1st and 2nd April 1940, with Dr. Bidhan Chandra Roy in the chair. Twenty-seven members were present.

Drs. A. S. Erulkar and A. Lakshmanaswami Mudaliar were re-elected Vice-President and member of the Executive Committee respectively. Major-General G. G. Jolly was elected to the Executive Committee *Vice* Colonel H. Stott whose term of membership of the Executive Committee had expired.

The question of the principle of reciprocity of recognition of medical degrees with countries outside India was referred to the Executive Committee for consideration along with cognate matters.

After dealing with certain other matters of routine nature forwarded by the Executive Committee, the Council decided that the next meeting of the Council be held on Saturday the 26th October 1940 at 11 a.m

Dr. B. C. Roy addressed the Council as follows:

Dr. Young and Members of the Council,

I welcome you to the Thirteenth Session of the Council and in doing so I appreciate the great honour you have done by electing me as your first non-official President. I am very grateful to you for agreeing to the altered dates as those already fixed for the meeting did not suit some of the members.

2. It was reported to you at the Eleventh Session that the Reports of the Inspectors on teaching facilities and examinations in the subjects of Physiology, Pharmacology and Anatomy had been forwarded to the Universities concerned for their observations. The remarks of the Universities having since been received the Inspectors have drawn up their General Reports and these are being placed before your Executive Committee.

3. As directed by the Executive Committee the correspondence regarding the necessity for improving the teaching of Hygiene and Public Health as part of medical curricula has been forwarded to the various Universities for their views regarding (a) Council's Recommendation II (3) on Professional Education, (b) the desirability of improving Hygiene museums, and (c) the proposal for carrying out health surveys by the students. Replies are awaited from the Universities of Bombay and Calcutta, on receipt of which the matter will be placed before the Executive Committee.

4. Your Executive Committee formed a Board of Experts with experience of teaching Basic Scientific Subjects to medical students, for the purpose of determining the minimum requirements in those subjects. The information collected in this conection from various British Indian Universities was forwarded to the members of the Board who have formulated the draft requirements in all the subjects. The matter is being put up for the consideration of the Executive Committee.

5. As directed at the Eleventh Session the attention of the University of Lucknow was drawn to the inadequate number of labour cases available for the teaching of students in Midwifery. The observations of the Government of the United Provinces, on this matter was considered by the Executive Committee and in reply the Government was informed that if the Lucknow University desire the continued inclusion of their degrees in the First Schedule to the Act they should conform to the requirements of the Council.

6. Under the direction of the Executive Committee enquiries have been made from the various Universities as to whether there is any rule, convention or system prescribing minimum qualifications for teachers and Examiners. The replies when received will be placed before the Executive Committee for further consideration.

7. The Central Government have forwarded a representation received from the Madras Government regarding the non-recognition of L. M. S. degree of the Madras University by the Fedeerated Malay States. Uuder the direction of the Executive Committee the Central Government were requested to ascertain:—

(a) The number of medical practitioners with Indian qualifications which are registered in the Federated Malay States and the number of those who possess degrees which are not registrable.

(b) The nature of the disabilities from which persons possessing non-registrable qualifications suffer, and

(c) The date on which these persons passed their final qualifying examinations.

The answers to the above have reached us and will be considered by the Executive Committee.

8. In compliance with your recommendation for making provision relating to medical diplomas granted in the United Kingdom or Burma which is referred to in sub-section (1) of Section 120 of the Government of India Act, 1935, Act No. XXVII entitled Medical Diplomas Act of 1939 has been passed by the Central Legislature and the draft rules framed by the Central Government to implement the Act are being put up for consideration of your Executive Committee.

9. As decided at the last session the Central Government were addressed to amend the Indian Medical Council Act, 1933, so as to vest in the Medical Council of India the power of appointing Visitors in addition to Inspectors, for performing such duties as the Council may from time to time deem fit. The Central Government have enquired about the specific functions to be allotted to the Visitors and the position has been explained. Meanwhile your Executive Committee are drafting the confidential Instrument of Instruction for the guidance of Inspectors and Visitors when appointed.

10. In accordance with the decision of the Executive Committee the Bombay University have been advised that the marking in the subjects of Forensic and Preventive (Hygiene) Medicine should be carried out separately. The written papers should be in two sections and in adition the oral examinations should continue to be held separately as heretefore. The candidates should be required to secure the prescribed minimum marks separately in each of these subjects both in written and oral tests as well as 50% in the aggregate. The matter is receiving the attention of the University.

11. As recommended by your Executive Committee the M. B., B. S. degree of the Andhra University has been placed by the Central Government on the First Schedule and recognised with effect from December 1, 1938. The Andhra University have since represented against the non-recognition of their degrees before 1st December 1938, and have asked for the deletion of the date from the Schedule. Meanwhile the General Medical Council have communicated their decision refusing reorganition of the Andhra degrees. Both these communications will be placed for the consideration of the Executive Committee and will be submitted to you along with their recommendations.

12. In accordance with your desire and on the invitation of the Calcutta University my predecessor in office visited the Medical Colleges affiliated to that University. The steady progress maintained by these Institutions as mentioned in his report was noted with satisfaction by you at the last session.

13. The standard Inspection Forms for the guidance of the Inspectors as approved by the Executive Committee have been printed and will be issued to the Inspectors as and when necessary.

14. The Central Government have intimated that it would not be possible for them to proceed with the construction of a building for the office of the Council during the year 1940-41. At the last session it was decided that the lease of the present building should not be renewed and as desired, efforts are being made to find out a more suitable building in a central place.

15. We have not yet received any reply from the General Medical Council to our enquiry asking for precise information as to the steps which have been taken to rectify the defects of various Licensing bodies mentioned in the reports of the Inspectors appointed by that Council. The matter is, however, receiving the consideration of the Executive Committee with a view to determine the further course of action.

16. At our instance the Central Government have addressed the Burma Government regarding the decision of that Government not to amend the Burma (a) [illegible]al Act in order to provide for the recognition of (b) [illegible]ndian degrees included in the First Schedule to [illegible]ndian Medical Council Act and their reply is still (c) [illegible]ited. As the Burma degrees have already been prof[illegible]uded in our Schedule, the advisability of the the l[illegible]ocation of this inclusion, is under the consideration [illegible]your Executive Committee as a measure of retaliation.

17. The question of direct reciprocity with Japan is engaging the attention of the Executive Committee. Information in this connection is still awaited from the Japanese authorities as to which of the Japanese qualifications are proposed for recognition by this Council.

18. You are aware that in October 1937 we resolved to put New South Wales degrees on Schedule 2 of the Act because the Medical Board there informed us in June 1937 that reciprocity with our Council was possible. The Sydney University was put on Schedule 2 in October 1937 and we asked the New South Wales Medical Board to implement the scheme of reciprocity on their side. They however intimated to us in April 1938 that their Crown Solicitor regarded that reciprocity was not complete as the Indian Medical Council would not accept all degrees registrable in New South Wales as was laid down in their Act. They informed us however that an amending Medical Bill was under the consideration of the New South Wales Parliament and it was thought that the provisions contained therein would simplify the question of reciprocity. The bill has since been passed. The new Act has made reciprocity still more difficult and the New South Wales Medical Board have now proposed reciprocity through the General Medical Council, a proposal which is being placed before the Executive Committee.

The position taken up by the New South Wales Government raises an important question which I find has also been the subject matter of resolutions proposed to be moved in the Council by members. The question is whether and to what extent we should endorse the scheme of indirect reciprocity, namely, through the General Medical Council. This council, in August 1937 entered into schemes of reciprocity with the authorities of states or countries outside British India; in some cases, "directly" with these authorities and in others through the General Medical Council of Great Britain. The attitude taken by the New South Wales Authority shows that few countries desire direct reciprocity with us. We were under the impression that they agreed to a scheme of "direct" reciprocity with us as the correspondene with this authority will show. They had meanwhile corresponded with the General Medical Council and they are not now desirous of offering us "direct" reciprocity. The matter is before the Executive Committee and it is for the Committee to indicate what steps are to be taken, We had asked 27 countries to enter into schemes of direct reciprocity with us, and only 4 countries: New Zealand, Malta, Burma and New South Wales agreed to enter into schemes of reciprocity with us. What is it that prevents these States from negotiating directly with us? Why is that they desire recognition through the General Medical Council? These are questions we should give serious attention to.*

We have one great handicap, and that is that the Indian Medical Council Act, 1933, does not provide for an All-India Register. Most of us know the history of the cases and appreciate the difficulties of the situation which necessitated the omission of a provision for a Register for the All-India Medical Council, but to an outside authority it must seem an anamoly that while we attempt to negotiate with any "State or Country outside British India which is entrusted by the Law of such State or Country for the maintenance of Register of Practitioners", we ourselves have no Register. Although we make up this deficiency to a certain extent by the provisions of Section 12 of the Act which direct the enrolment of all persons on the Provincial Registers whose qualifications are recognised by the All-India Medical Council, such "indirect" registration is as bad as "indirect" reciprocity.

Let me hope that in the near future the Act will be amended for the purpose of including a provision for an All-India Register in which will be enrolled all persons who are now on the Provincial Registers. The difficulties that faced the Government in 1933 may not be so insuperable to-day because in the provinces of Madras, Bombay and the United Provinces, Government have decided to abolish or have abolished the school standard of education and instruction. In Bengal, the Provincial Medical Council have also endorsed the same view and sent up to the Government its proposals for abolition of the school standard of education. Once it is realised that a minimum uniform standard of medical education requires a certain time period for completion and that a certain syllabus of instruction has to be gone through, the distinction between the school and college standards will disappear. Human life could only be entrusted to those who possess such minimum standard of knowledge and only the names of all persons who possess such knowledge will be borne on the All-India Register. I hope and trust this Council will consider this matter in all seriousess and send necessary recommendations to the Government.

* Dr B. C. Roy's questions can well be answered by himself, because he knows the truth. We have often repeated in the *Journal* that the Indian Medical Council Act is a political gift to the General Modical Council by the Govt. of India. As such it is no wonder that few countries desire to deal with us directly. They have got enough political common sense to detect our subordinate position. Ed. I.M.J.

Bombay Medical Council

The following is a summary of the Meeting of the Bombay Medical Council held on the 9th February 1940:—

The Council considered the complaint by Dr. V. B. Mankad, M.B., B.S., and 5 other medical practitioners of Ahmadabad against Dr. Ganpatram Gokaldas Patel, M.B., B.S., D.O.M.S. (Lond.), in respect of the charges, viz.,

(*a*) of directly or indirectly procuring, or sanctioning or acquiescing in the publication and free distribution among patients of a handbill or leaflet in Gujarati, the said handbill or leaflet commending or directing attention to the professional skill, services, popularity, amiable temper, the care and caution had by Dr. Patel in the treatment of eye diseases; it was alleged that the mention of Surya Bhuwan Hospital was intended to be an advertisement to solicit more practice;

(*b*) issuing cards or tickets containing not only the number and name of the patient thereon but also the name and address, etc., of Dr. Patel which, it was alleged, constitute an advertisement:

(*c*) under the cloak of a semi-charitable eye-clinic, it was alleged, he was carrying on private practice charging only one anna to every out-door patient visiting the Surya Bhuvan Eye Hospital.

These acts appear, it was alleged, to contravene the provision of clauses (*a*) and (*m*) of rule 1 in Section II of the Code of Medical Ethies and clause (*a*) of section 6 of the Warning Notice.

Mr. C. C. Parikh, Advocate from Ahmedabad, was allowed to appear for Dr. V. B. Mankad, Dr. D. E. Anaklesaria, Dr. M. M. Parikh and Dr. M. D. Anklesaria, four of the complainants herein, as a special case.

Dr. G. C. O'Gorman, Bar-at-Law, and Mr. H. R. Pardiwalla, Bar-at-Law, instructed by Messrs. Majundar and Dalal, Solicitors, appeared for Dr. G. G. Patel, the practitioner.

The Registrar then read to the Council the Notice of Inquiry dated the 23rd December 1939 addressed to Dr. G. G. Patel. Mr. Parikh, Advocate for four of the complainants, produced a letter written by one of the complainants Dr. V. B. Mankad, dated the 1st February 1940, which was also read to the Council by the Registrar, Mr. Parikh then stated the case of his clients and added that he was unable to produce any evidence beyond what he stated at the Meeting under instructions from his clients.

Mr. O'Gorman then put the case of the practitioner (Dr. Patel) before the Council and put certain questions to Dr. Patel who was cross-examined by Mr. Parikh. Thereafter members of the Council put questions to the practitioner and the Lawyer for four of the charges in the Notice of Inquiry.

Upon the conclusion of the deliberations, the following resolution was put from the chair:—

"That the facts alleged against Dr. G. G. Patel, M. B. B. S., D. O. M. S. (London), in the Notice of Inquiry have been proved to the satisfaction of the Council."

The said resolution was declared lost, as a result whereof Dr. Patel was held not guilty of the charges preferred against him in the Notice of Inquiry.

The Council then proceeded to consider the question of amendment of rules 61 and 64 of the rules of the Council relating to travelling allowance and passed a resolution approving of the following amendments recommended by the Executive Committee in regard to the said rules:—

(1) In rule 61—*Add* the words "or Sub-Committee etc." after the words "Executive Committee" and *add* the words "therefore" after the words "travelling expenses".

(2) In rulee 64—*Add* the words "or Sub-Committee etc," after the words "the Committee" in clause (ii).

The Council then decided to grant recognition to the D. G. O. of the College of Physicians and Surgeons of Bombay for registration as an additional qualification and further resolved that the same be included in Table (G) of the Bombay Medical Register.

The Council then proceeded to consider the question of recognition of the D. O. M. S. of the College of Physicians and Surgeons of Bombay as an additional registrable qualifications and decided to grant recognition to the D. O. M. S. of the College for registration as an additional qualificaton and further resolved that the same be incluced in Table (G) of the Bombay Medical Register.

The Council then proceeed with consideration of the question of imparting medical education in the provnce of Bombay through the medium of regional language and resolved that all proceedings subsequent to the decision of the Council arrived at under rule 34 (*a*) of the Rules of the Council on the 28rd October 1939 and the letter of the Registrar dated the 26th October 1939 to the Surgeon-General with the Government of Bombay relating to this matter, as also the resolutions adopted by the Executive Committee thereon on [illegible]ry 15th November 1939 and the 15th December 1939 declared *ultra vires* the powers of the Executive Committee.

The Council then proceeded to consider the application of Dr. J. N. De Sylva, L. M. S. for restoration of his name to the Bombay Medical Register and resolved that the consideration of his application be adjourned *sine die* and that he be asked to submit certified copy of the judgement in the proceedings pending against him.

The Council then proceeded to consider a letter dated the 7th August 1939 from the Secretary, Medical Council of India, forwarding therewith a copy of letter dated the 4th July 1939 from the Registrar, South African Medical Council, Pretoria, and decided to accept the recommendation of the Executive Committee that any person whose name is erased from the Register of South Africa where he was formerly a registered medical practitioner for infamous conduct in a professional respect should not be entitled to have his name entered in the list of the Bombay Medical Register, provided the Medical Council of the said country notifies to this Council the name of such a medical practitioner, until such time as the registering Council shall otherwise intimate and that this rule be laid down by the Council provided that the South African Medical Cnuncil is also prepared and willing to reciprocate with this Council in the like manner.

The Council then proceeded to consider the question of publishing names in Medical Journals, of all those medical practitioners who have been administered a warning by the Executive Committee of the Bombay Medical Council for infringing any of the provisions of the Code of Medical Ethics and or the Warning Notice, and decided that the same be published in the following Medical Journals and in such other Medical Journals as the Executive Committee from time to time decides:—

Journal of Indian Medical Association, Calcutta.
Indian Medical Journal, Madras.
Medical Digest, Bombay.
Medical Bulletin, Bombay.
Medical Practitioner, Madras.
Sind Medical Journal, Karachi.
Antiseptic, Madras.

(*Continued at foot of next page*)

LETTERS TO THE EDITOR

Hospital Reorganization in the U. P.

Sir,

I would like to submit my comments and suggestions regarding the report of the Sub-Committee appointed under resolution No. 6 of the Medical Reorganization Committee, U. P.

(1) The report should be published in the U. P. Gazette, and also circulated among all the medical associations for opinion. This has not been done so far.

2. I agree that the hospitals in rural areas are ill-equipped and ill-provided with funds. The suggestion to invest the management in a local representative committee is sound, but the report has not touched upon the degree and extent of the responsibility of the Government in the matter Will the Government pay any contribution towards the recurring and non-recurring expenditure to these hospitals?

3. The division of medical relief into urban and rural is sound. I think all the district and taluk hospitals should be classed urban, and the rest as rural. The suggested committee of management, in order to ensure [illegible] and popularity, should have:

(a) the President of the District Board as chairman

(b) A constituency of donors and subscribers

(c) A constituency of the members of the local medical profession, without any reference to their membership in the local medical associations.

The last is important inasmuch as the report lays stress on representation from the local branches of the Indian Medical Association only. If this is followed, it would palpably be unfair to other local medical associations and to such members of the profession who are not members of any Association. The Secretary of the Hospital Committee according to the Report, is honorary. But I wonder whether the onerous duties of this post enumerated in the report could be discharged satisfactorily by an honorary secretary. If funds permit, he should be a paid officer; otherwise efficiency is likely to be impaired.

4. The hospital staff of the district hospitals may form part of the Hospital electorate but they should not be eligible for membership in the Hospital Committee.

5. The report stresses on the need and desirability of having a honorary staff of medical personnel to the maximum extent possible. Unless the mode of recruitment based on invidious distinction between one group of medical practitioners and another is altogether given up, and equal opportunities are given to all registered practitioners, extension of honorary system has absolutely no justification. It will amount to the encouragement of vested interests in the profession to the detriment of its rank and file. At any rate the present paid staff should continue till they retire, and if their practice is restricted or prohibited they should be given a fair compensatory allowance. This, of course, applies both to the subordinate and provincial medical service.

There should be not only one paid Resident Medical Officer for each big district hospital but also one paid Assistant Resident Medical Officer, as it would not be possible for a single man to cope with the usual heavy work in such hospitals.

6. The duties of the Civil Surgeon, as detailed in the report, require to be thoroughly altered:

(a) Medical attendance on Government officers and their families should not be given free, since the same privilege is not extended to Local Board employees.

(b) The inspection of hospitals should be entrusted to a Divisional Inspector, specially appointed for this purpose.

(c) The management of the hospital should be entirely in the hands of the Hospital Committee.

(d) Medico-legal work and examination of police recruits should be entrusted to the medical officers of the police hospitals and the Police Surgeons in big cities.

(e) All types of medical certificates to State employees should be issued by registered medical practitioners, and in case of doubt may be got countersigned by the Honorary Medical Officers in charge of medical units.

(f) As separate Superintendents of Hospitals are recommended to be appointed, the corresponding duties of the Civil Surgeon should be deleted.

(g) The school medical inspection should as far as possible be entrusted to whole-time School Medical Officers. Hospital Medical Officers should be relieved of these duties. In places where there are no School Medical Officers, the Resident Medical Officer or his Assistant should be entrusted with this work.

7. The Hony. Medical Officers should not be given collateral duties on any payment basis.

8. There is at present no need for continuing the Provincial Dufferin Hospital Committee. Government grant should be given to the managing committee of the district and tahsil hospitals. Pay, promotion, pension, leave, etc., of lady doctors should be the same as for male doctors. The lady doctor who is now called the Superintendent to Women Medical Aid should be the only inspecting officer for the Women's Section of the district and tahsil hospitals.

9. Under the estimated cost of a rural dispensary, the report suggests a scale of pay of Rs. 50-5-75, for rural medical officers. This, in my opinion, is inadequate and should be raised to Rs. 75-5-100, since the rural medical officer will not be allowed private practice, or given any allowance or get fees for medico-legal work. (b) to avoid extra expenditure rural medical officers can be entrusted with such public health work which requires no special training. (c) the managing committee of a rural dispensary should be composed of: (i) the President of the Panchayat (ii) 5 members representing different interests of whom one may be a medical man if available in the near vicinity (iii) there should be at least 2 beds in each rural dispensary for emergent cases.

The report can by no means be considered as final. It must be published for public criticism before action is taken on the same by the Government. As it is, the report is a hotch-potch of good and bad. The latter should be eliminated in the light of public criticism. Till then, the Government will be well advised not to give effect to the report in the present form.

I. N. SAXENA

Fyzabad, 14-3-1940. } *Secretary, Fyzabad Branch, and Member, U. P. Standing Committee, A. I. M. L. A.*

(Continued from previous page)

The Council then proceeded to ballot for the election of an Executive Committee for the year 1940-41 and in accordance with the result of the ballot, the President declared the following six members elected :—

Lieut-Col. S. L. BHATIA, M. C., M. A., M. D., I. M. S.
Dr. C. A. AMESUR, M. R. C. S., M. S., D. L. O.
D. B. G. VAD, M. D.
Dr. Mrs. K. TARABAI, L. C. P. S.
Dr. U. B. NARAYANRAO, L. C. P. S.
Dr. V. D. SATHAYE, B. Sc., L. C. P. S.

SERVICE NOTES

Punjab (P. S. M. S.)—February 1940

Dr. Bhagat Ram Puri, General duty, Civil Hospital, Gujrat to Hathur Dispy., Ludhiana Dist.
" Pritam Singh, Civil Hospital, Jhelum to jail & Police Hospitals, Mianwali.
" Chuni Lal Sharma, Punjab Dental Hospital, Lahore to Patti Dispy., Lahore Dist.
" Pirthi Singh Dabes, Jail & Police Hospitals, Hissar, to Pehowa Dispy., Dist. Karnal.
" Sadiq Ali Bokhary, General duty, Civil Hospital, Sargodha to Hujra Dispy.. Dist. Montgomery.
" Abnashi Ram, Hujra Dispy., Dist. Montgomery, to Canal Dispy., Panjnad, Muzaffargarh Dist.
" Rahmat Ullah, Canal Dispy., Panjnad, Muzaffargarh Dist. to General Civil Hospital, Muzaffargarh.
" Ram Sarup Gupta, from leave to Alakhpura Dispy., Dist. Hissar.
" Ram Chandra Sharma, Pehowa Dispy., Dist. Karnal to Bahora Kalan Dispy., Gurgaon Dist.
" Nawab Ali Qureshi, Famine Duty, Hissar Dist. to General duty Civil Hospital, Hoshiarpur.
" Lakshman Das Thapar, General duty, Dera Ghazi Khan, to General duty, Civil Hospital, Taunsa, D. G. Khan Dist.
" Sita Ram Mohan, General duty, Civil Hospital, Gujrat to Kadirabad Dispy., Dist. Gujrat.
" Sardar Mohammad, Qureshi, General duty, Civil Hospital, Gudaspur to Bhogpur Dispy., Jullundur Dist.
" Ali Mohammad, General duty, Civil Hospital, Lyllapur, to General duty. Civil Hospital, Isakhel, Mianwali Dist.
" Nihal Chand, General duty, Civil Hospital, Sargodha to General duty, Civil Hospital, Fatehjang, Attock Dist.
" Girdhar Datta, General duty, Civil Hospital, Multan, to General duty, Civil Hospital, Alipur, Muzaffargarh Dist.
" Bishan Chand Bhatia, General duty, Civil Hospital, Muzaffargarh to General duty, Civil Hospital, Leiah, Mnzaffaragarh Dist.
" Gul Mohammed Malak, Delhi Province to Patti Dispy., Lahore Dist.
" Mul Raj Aggarwal, Bahora Kalan Dispy., Gurgaon Dist. to Jail & Police Hospitals, Hissar.
" Iqbal Singh, Haveli Project Canal Dispy., Kaki Jhang Dist. to General duty, Civil Hospital, Jhang.
" Ram Narain Virmani, Lodhran Dispy., Multan Dist., Kot Adu Dispy., Muzaffargarh Dist.
" Ata Mohammad Khan, Kot Adu Dispy., Muzaffargarh Dist. to Lodhran Disyy., Dist. Multan.

Bengal (P. S. M. S.)—15-1-40 to 14-3-40

Dr. Shyamapoda Roy Choudhury, Jessore granted leave for 2½ months from 1-3-40
" Bata Krishna Chakravarty, Khulna, granted leave for 2 weeks on a. p.
" Jogendra Nath Sarkhel, Rangpur did the duties of 2nd S. A. S. in additson to his own from 12-7-39 to 7-8-89.
" Paritosh Kumar Mukherjee, Burdwan, posted as Demonstrator of Pathology, Medical School, Burdwan.
" Jaladhar Sen Gupta, Burdwan, posted as Demonstrator of Physiology, Medical School, Burdwan.
" Gour Mohan Gosh, Pabna, to Presidency Jail, Calcutta.
" Shyama Charan Pal, Dinajpur to Supy. duty, Campbell Hospital, Calcutta
" Abdu Zafor Md. Shamsuddin, Calcutta, to Police Hospital, Barisal.
" Amrita Lal Chanda, Barisal, under orders to Campbell Hospital, Calcutta, granted 1 month leave
" Haran Chandra Sen, Midnapore, granted leave on a. p. for 6 months.
" Byomkesh Das Gupta, Calcutta, did the duties of 2nd S. A. S. in addition to his own from 3-10-89 to 19-11 39.
" Debendra Nath Sen Gupta, Dacca to Mitford Hospital, Dacca.
" Siddique Ullah Choudhury Chittagong, leave for 30 days.

U. P. (P. S. M. S)—February 1940

Dr. Shiva Lal, Reserve duty, Meerut to Police Hospital, Agra.
" S. Allauddin, Police Hospital, Agra, to Tajganj Dispy., Agra.
" Ishwari Prosad, Tajanj Dispy., Agra to leave.
" H. S. Saxena, Mental Hospital, Agra. to leave
" A. B. Endlaw, Reserve duty, Agra to Mental Hospital, Agra.
" Dewan Singh, Jwalapur, to leave.
" Himmat Singh, Police Hospital, Saharanpur, to Jwalapur, Saharanpur.
" Wali Uddin; S/C Sadar Hospital, to Polce Hospital, Saharanpur in addition to his own duties.
" Amar Singh, Mental Hospital, Agra to leave.
" Azizul Hamid, from leave to Hasanganj, Unao.
" Md. Maqdulul Har, Hasanganj, Unao, to S/C. Sadar Hospital, Moradabad
" Prem Chandra from leave to Karchhana, Allahabad
" A. S. Attery, J. and P. Hardoi, Pihani; Hardoi.
" Shiv Charan Lal, Pihani, Hardoi to Jail and Police, Hordoi.
" Jagadamba Prosad, leave
" Imtiaz Ali Khan, do.
" Bhajan Lal Katiyar, from leave to Chigon, Jhansi.

Consolidated Accounts of The All India Medical Licentiates' Association

RECEIPTS	DECEMBER 1939	JANUARY 1940	FEBRUARY 1940
	Rs. A. P.	Rs. A. P.	Rs. A. P.
To Subscription (old and new) ...	906 0 0	1021 8 0	3927 8 0
„ Advertisement ...	758 1 0	1157 0 0	847 13 9
„ Interest ...	...	623 0 1	...
„ Micellaneous ...	1 4 0	2 9 0	2 4 0
„ Loan from General Secretary, Karnal ...	...	6 12 6	0 9 9
„ Deposit of Dr. V. V. Oak, Indore	...	2 0 0	...
Total ...	1665 5 0	2812 13 7	4778 8 6
Balance of last month ...	64457 5 10	64262 1 1	65844 4 2
&	£ 157 17 10	£ 157 17 10	£ 157 17 10
Grand Total ...	66122 10 10	67074 14 8	70622 7 8
&	£ 157 17 10	£ 157 17 10	£ 157 17 10
DETAIL OF BALANCES			
	£ 157 17 10	£ 157 17 10	£ 157 17 10
3½ War loan (Imperial Bank Indore)			
13 Shares of the Bactro-Clinical Laboratory ...	85 0 0	85 0 0	85 0 0
Omera Gold Medal Account ...	362 10 3	443 6 11	443 6 11
New Loans ...	8200 0 0	8200 0 0	8200 0 0
5 years Postal Cash Certificates ...	6511 14 0	6511 14 0	6511 14 0
G. P. Notes ...	10891 9 0	10891 9 0	10891 9 0
Govt. Bond for 1943 ...	5600 0 0	5600 0 0	5600 0 0
Govt. Bond for S. S. ...	10000 0 0	10000 0 0	5000 0 0
Imperial Bank of India, Delhi ...	50 0 0	86 3 3	86 3 3
With Dr. S. P. Sengupta, Ex-Manager Postal Savings Bank with President	793 12 1	793 12 1	793 12 1
With Branches ...	2155 3 11	2661 4 1	7661 4 1
	191 8 9	216 8 9	266 8 9
With Editor	67 0 7	27 7 7	52 2 8
In hand ...	1837 2 3	1870 13 9	1698 14 6
In bank ...	26 7 6	18 12 0	25 7 6
In stamps ...			
Cheque from Managing Editor, I. M. J. to Treasurer in transit ...	...	200 0 0	...
With General Secretary ...	86 1 0	...	...
With Treasurer	16828 1 6	17294 4 6	19681 13 6
P. O. S. Bank ...	460 5 9	638 1 9	1654 9 6
Pb. N. Bank ...	115 4 6	5 2 6	27 5 9
In hand ...	...	300 0 0	...
In stamps ...			
Grand Total ...	64262 1 1	65844 4 2	68629 15 6
&	£ 157 17 10	£ 157 17 10	£ 157 17 10
EXPENDITURE			
By Printing, I. M. J. ...	523 15 0	335 8 0	592 15 2
„ Establishment ...	392 0 0	388 0 0	378 0 0
„ Office Rent ...	70 0 0	50 0 0	50 0 0
„ Stationery ...	31 9 6	12 11 6	14 13 6
„ Postage ...	159 6 3	167 15 9	476 3 0
„ Travelling Allowance ...	116 7 6	89 12 0	...
„ Other Printing ...	3 0 0	13 3 9	121 13 0
„ Miscellaneous ...	86 10 6	62 3 6	44 8 9
„ Propaganda Work ...	128 5 0	...	41 14 0
„ Expenses for Branches ...	262 7 6	30 13 0	263 12 9
„ Advt. Commission ...	29 6 0	10 0 0	8 0 0
„ S. R. Committee ...	1 7 0	...	...
„ Omera Gold Medal ...	56 0 0	...	...
„ Payments to contributors ...	...	70 7 0	5 8 0
Total ...	1860 9 9	1230 10 6	1992 8 2
Balance in hand ...	64262 1 1	65844 4 2	68629 15 6
&	£ 157 17 10	£ 157 17 10	£ 157 17 10
Grand Total ...	66122 10 10	67074 14 8	70622 7 8
&	£ 157 17 10	£ 157 17 15	£ 157 17 10

WEAR & TEAR

Human system is composed of different structures. To maintain them some exogenous substances are required, as, fresh air, water, minerals, vitamins etc. Some of these requirements we take from nature and some from diets. The diets contain minerals, vitamins, etc., to compensate the every-day wear and tear.

The modern fashion of manufacturing the food-stuffs by mechanical power spoils the essential food factors, which are responsible to maintain the general health and vigour.

Besides various social factors, insufficient diets play another important role to make the society easy victim to diseases.

Half starved condition and diets—without the vital principle—cause so many diseases, e. g , rickets, tuberculosis, malnutrition, wasting diseases, constipation and anæmia, etc.

The mineral substances of the body are utilised every day. But the modern-fashioned diets, which we take every day, are not sufficient to compensate the every-day loss.

Bi-Vita B.—is composed of vitamin B, glycerophosphate of calcium, sodium, manganese, strychnine with nucleic acid and palatable malt extract. The doses of these minerals are put in proportion.

The vitamin B is responsible for nutrition, stimulates endocrine system and thereby activates the tissue resistance. It also prevents polyneuritis and increases the tonicity of the intestinal muscles, so prevents the intestinal stasis.

The glycerophosphates, being one of the components of the nervous tissue, help the nervous system to regenerate and strengthen.

The calcium glycerophosphate is a sedative to the nerves, so it is valuable for neurasthenia and calcium deficiency owing to its calcium content.

The nucleic acid augments the phagocytosis and thereby increases the germicidal activity of blood.

The manganese is found to be helpful in the treatment of anaemia and chlorosis.

Strychnine is a nervine tonic.

The malt extract is a nourishment.

Bi-Vita B. therefore is the most scientific preparation as a restorative and very much helpful as an every-day tonic, having the useful components to balance the used up minerals during evere-day life.

It can also be used for rundown conditions, epidemic diseases, convalescence, malnutrition, wasting diseases, nervous exhaustion, anaemia, chlorosis, vitamin deficiency, constipation etc.

It is supplied in 12 oz. bot., the dose being 2—4 tea-spoonfuls thrice daily after meals.

What is Normal Blood Pressure

More than the "normal temperature" the normal blood pressure has wide variations. As the *Lancet*[6] pointedly writes: if fifty average medical men estimated the blood pressure of one patient their results would vary to an extent which might make it difficult to draw prognostic conclusions from them. Nor is it correct to assume, it continues, the familiar "age plus 100" formula as a working clinical hypothesis. In our country, as elsewhere, the educated people have been taught to dread high blood pressure so much that they form a definite group of morbid people whom it has become impossible to treat successfully. They are exactly the people who are resistant even to psychotherapy. Fortunately much attention is not paid to low-blood pressure, and the British cardiologists agree that hypotension is a cause for congratulation rather than a cause for commiseration. The question, therefore, of the exact determination of what normal blood pressure is assumes an importance which we should by no means brush aside. *Lancet*[7] quotes Robinson and Brucer's analysis of over 10,000 cases who have been under observation for 10 years and who are made up of all ages. According to them, the normal systolic pressure is 90-120 m.m. of mercury, and of the diastolic 60-80 m.m. The normal blood pressure is reached in adolescence and does not rise with age. 5-10 m.m. variation is to be expected even in health; but if the B. P. exceeds 120 systolic and 80 diastolic over a ten-year span such a patient is bound to develop gross hypertension sooner or later. Similar work of the kind undertaken by Robinson and Brucer may have to be done in India to arrive at the average normal blood pressure of Indians. The American or British figures are no guide to us, because the climate in which they live, and their dietary habits are different from those of our people. These are likely to influence the range of difference in 'normal blood pressure' between different geographical and racial units. Our experience has been that the 'normal blood pressure' of Indians is somewhat lower than that of the Europeans, and that what may be considered as moderate hypertension in the latter is likely to be normal in the former. This we explain in general terms by the fact that the average European consumes more protein and is subject to more political and social shocks than their brothers in the East, particularly in our country. It is quite possible however that with a more rapid permeation of "Western" modes of living, and outlook of life the present normal blood pressure of the Indian may reach the European standard barring that difference due to the effects of varying climate and occupation over which neither the "East" nor the "West' has any control.

[6] Editorial, Nov. 4, 1939, p. 986.
[7] *Ibid.*

Cholesterol in Pregnancy Anaemia

Hamendra Nath Chatterjee of the Indian Research Fund Association reports his biochemical investigations of blood in pregancy anaemia, and considers them as equally important as haematological investigations[8]. He examined the total cholesterol, the free cholesterol and ester cholesterol from blood in anaemia of pregnancy and in normal pregnancy and found a marked diminution in the ester-cholesterol fraction in anaemia cases, and a slightly low figures for the free cholesterol as well. Based on this observation and on the physiological needs of a generons supply of cholesterol during pregnancy for erythropoietic purposes, he tried intramuscular injection of 2 c.cm. of a 5% solution of cholesterol in olive oil, every alternate day, on fourteen cases of pregnancy anaemia. Except two patients who left the hospital before confinement, the rest were benefited by this treatment. This seems to be unconfirmed by trials in a lager series of cases in our matenitry hospitals. Iron, marmite and crude extract of liver should not therefore be wholly abandoned since the pregnancy anaemia, even according to Chatterjee, presents various types of blood picture—normocytic, microcytic, macrocytic as well as normochromic, hyperchromic and hypochromic.

Vitamin E in Muscular Dystrophies and Nervous Diseases

Vitamin E is reputed for its antisterility factor and so it has been clinically used since its first discovery. Wheat germ oil is one of the abundant sources of this vitamin. Einarson and Ringsted (1938) are cited by Bicknell[9] as showing that the muscular dystrophies, amyotrophic lateral sclerosis and tabes dorsalis are due to a deficiency of vitamin E, probably of its myotrophic and neurotrophic factors. Based on these Danish experiments, Bicknell has treated over 26 cases of these categories with half an ounce of fresh, dried whole wheat germ twice a day for over 18 months. By the excellent

[8] *Lancet*, Jan. 6, 1940, p. 15.
[9] *Ibid.*, p. 10.

clinical results obtained, he comes to the conclusion that these diseases are due to vitamin E deficiency, and are curable by supplying this deficiency. The treatment he suggests is so simple that it seems worthy of a wider trial in these diseases under reference which have been resisting the older methods of treatment. Its simplicity and harmlessness are its recommendation, although from a highly scientific point of view Bicknell would be convicted of rash conclusion, if not of heresy.

Unauthorised Use of Medical Titles

Indian Medical Degrees Act was passed in 1916 and it gave statutory recognition to the medical degrees and diplomas registered by the Provincial Medical Councils which also came into existence at about the same period. Sections 4, 5 and 6 of this Act penalise unauthorised use of statutory medical titles, but section 7 lays down that no court can take cognizance of such an offence except upon the complaint made by order of the Local Government or upon complaint made, with the previous sanction of the Government, by a Council of Medical Registration. During the last 24 years we are not aware of any single instance of action taken by the Government against persons and institutions who made an unauthorised use and/or sale of statutory medical titles. We have heard about, and even seen in active practice, many a F. R. C. S. (Bengal), M. R. C. S. (Bombay), L. Dsc., and D. Dsc. (ubiquitous) and M. B., B. S. (Homeo.) They stride like colossus in every market place, and it is a great wonder how their big signboards and name-plates have escaped the eyes of law. The organised profession has been time and again complaining against this intrusion with but little effect. It is therefore heartening to read the recent communique of the Government of Madras proposing legislation against this hitherto neglected evil. We would suggest to the Government not merely to penalise the innocent victims but also those institutions and persons who confer and sell such unauthorised statutory titles. This evil is particularly great in dental practice, and the city of Madras—probably other cities also—are littered with "Licentiates in Dental Science" trained and diplomed by unchartered individuals or institutions. That this is dangerous to public safety is beyond any shadow of doubt, and we hope therefore that the proposed legislation would cover cases of this kind also, apart from cases of adroit abuse of the existing statutory medical degrees and diplomas.

The Proposed Sylhet Medical School

We are informed that the Government of Assam are likely to yield to the demand of some "people" for a medical school at Sylhet. We can easily realise the difficulties of a popular government when so faced, but no Government should encourage a demand, however insistent, which is against the ultimate interest of the people themselves. The accumulated experience during the last 100 years and the recent authoritative pronouncements on medical education by official and private bodies leave no doubt as to the inadvisability of creating more medical schools of the old order. It is unnecessary to rehash the old arguments against a substandard medical education. The Health Minister of Assam may have already noted the trend of medical education in Madras, the United Provinces and the Punjab, and we believe he may also be conversant with the opinion of the organised profession as well as the conclusions reached by the last Health Ministers' Conference at Madras, and the Government of India Conference on Medical School Education held at Delhi during November 1938. What Assam requires is the improvement of B. W. Medical School graded in such a manner as the Government may be in a position to spend without strain, and to make it a precursor of a medical faculty to the future Assam University. We think that Assam's finance is not strong enough to support and sustain two medical schools with proper standards as required by the Medical Council of India. Under these circumstances, the path of wisdom and statesmanship lies in conserving the existing school and in effecting improvements on the lines suggested by the Assam Medical Education Committee (1938). To do otherwise would be contrary to the interest of efficient medical education, and the people will be the ultimate sufferers. By all means let Sylhet hospital be improved and made a centre for a specialistic postgraduate training, but that should be no excuse for tinkering with the problem of medical education by rearing what is bound to be an inefficient medical school for obvious reasons. We hope that the Government of Assm are fully alive to the standards of modern medical education and that they would not allow party politics to interfere with the progressive evolution of medical education in their province.

The people may yet be convinced if the ministers take the trouble of telling them of the danger of the policy of creating

(*Continued at foot of next page*)

POST GRADUATE ARTICLE

Cardiology

Treatment of Cardiac Failure when Life is in Danger

(16)

● Dr. Jai Gopal

The medicinal treatment of cardiac failure varies according to the condition in which the patient is seen; therefore it will be considered under the two main heads: (1) When life is in danger, (2) when there is no immediate danger to life.

When life is in danger.—The following four methods are adopted to combat sericus forms of failure, particularly when there is obvious dyspnoea, dependent oedema, increased venous pressure and passive congestion of the liver, lungs and peripheral circulation.

DIGITALIS—Professor J. A. Gunn in delivering his presidential address at a meeting of the therapeutic and pharmacological

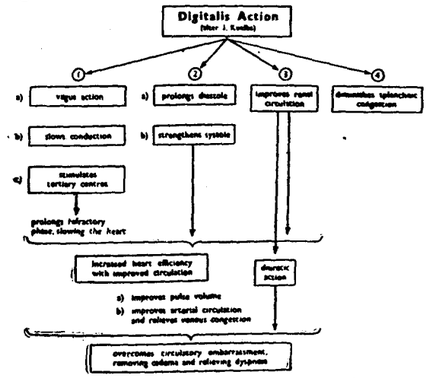

Fig. 1: Diagramatic representation of Digitalis Action

section of the Royal Society of Medicine on "Cardiac Stimulants" on 9th october 1928 emphasized the necessity of a proper and accurate classification of cardiac stimulants, and asserted, regarding digitalis, that opinions are definite as regards its reliability of action. In fact the intelligent use of this has been claimed as one of the major triumphs of modern therapeutics, and in selected forms of heart failure it is a potent remedy. It is therefore essential to study mode of its action in detail. The details that follow apply equally to all the drugs comprising digitalis group of stimulants.

(*a*) Due to its action on the sino-aurirular node and partly due to vagal stimulation there is slowing in the action of heart.

(*b*) Under its influence there is increased contractility of of heart, consequently there is proper emptying of the ventricles.

(*c*) The conductivity of the impulse is impeded. Under normal conditions the impulse is conducted through auriculo-ventricular bundle in 1/5th of a second. Under its influence it is slowed down, and in toxic doses may even cause complete heart block.

(*d*) The diastolic period is prolonged.

(*e*) The coronary circulation is augmented and there is improvement in the nourishment of the heart.

(*f*) In therpeutic doses it does not raise blood pressure.

Digitalizing Doses.— This means the amount of drug required to produce the therapeutic response. This amount is short of that quantity beyond which its administration will produce symptoms of intoxication. The formula devised by Eggleston is generally adopted when failure is serious and dangerous to life. For a patient weighing about 140 lbs and who has not taken digitalis for the preceding several days 300 minims of the official tincture in the first 24 hours is required to produce full effect. In the modified course 1½ drachm of the tincture is given as the first dose, to be followed after six hours by one drachm dose, and the third dose given six hours later still is half a drachm. In this way after the patient is well digitalised, further treatment is to give 15 to 20 minims every four hours. In 24 to 48 hours of full digitilization remarkable benefit is observed, dyspnoea lessens and venous pressure decreases owing to setting in of diuresis. In fact there is general feeling of well being and there is also good sleep.

Maintenance Dose.—This is the amount of digitalis which is required to maintain the beneficial effect obtained by the patient after adequate digitalization. The exact dose will have to be determined by trial and varies with different individuals, depending upon the body-weight and the susceptibility of the patient to this drug. A dose of 15 minims three or four times a day is commneced on the third day and is taken regularly till the signs

(*Continued from Previous Page*)

more medical schools when even the one at Dibrugarh is yet to be recognised by the Medical Council of India. If Assam is in need of more medical men for her medical relief, the better plan would be to spend on B. W. Medical School and Hospital what would be spent on the proposed Sylhet School and Hospital, and in this way raise the total admission of students in the former as well as its equipment and standards. Assam should stoutly refuse to purchase inefficient medical education which is being abandoned and rejected by other provinces.

just short of intoxication, viz., anorexia and headache, appear, beyond which further administration must stop for a few days, usually two or three days. In this way an intelligent patient will be able to regulate the dose suitable to his requirements. The maintenance dose may be taken for five days in a week and stopped on Saturday and Sunday to obviate the cumulative effect.

In a case of serious urgency an intravenous injection of Digoxin (B. W. & CO.) 1 mgm may be given to commence with, which causes a

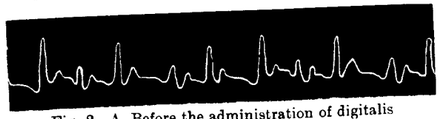

Fig. 2 A. Before the administration of digitalis

Courtesy and Copyright: B. W. & Co. (The Wellcome Foundation Ltd.)

rapid fall in ventricular rate, beginning five to 10 minutes after the injection. The full fall in rate after injection is usually thirty beats or more, but a good deal depends upon previous variations. Once the rate is under control then the averge daily maintenance dose after the normal last 24 hours at 70 is attained is 0·5 mgm of digoxin per day, which may preferably be given in divided doses. The B. P. tincture may be taken 15 to 20 drops three to four times a day, but as already stated each individual must learn to discover the dose suitable for his case.

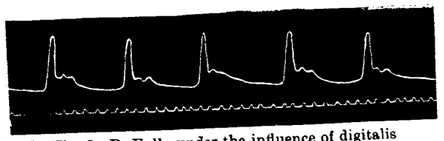

Fig. 3 B. Fully under the influence of digitalis

Courtesy and Copyright: B. W. & Co. (The Wellcome Foundation Ltd.)

The duration of the course is decided by the need of the heart. In auricular fibrillation the innumerable weak impulses originating in auricles must be checked from reaching the ventricles, and digitalisation is required to be maintained indefinitely for years without any ill effects. The grossly irregular pulse resumes its rhythm and in fact the reputation of digitalis depends greatly upon its beneficial effect on their regularity of heart in auricular fibrillation.

In mitral stenosis there is preliminary hypertrophy of the left auricle, but the potential energy of the auricles is not great and these chambers cannot struggle for a long time to propell the blood indefinitely through the stenosed orifice. The result is that there is back pressure in the lungs, and later secondary failure of the tricuspid valves sets in. The over-strained auricles soon exhibit

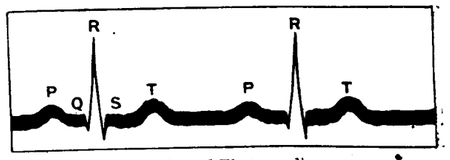

Fig. 4. Normal Electrocardiogram

Courtesy and Copyright: B. W. & Co. (The Wellcome Foundation Ltd.)

signs of fibrillation, and the myocardium is further exhausted. This type of case is commonly seen in young females, and gloomy prospects of early death in a female leaving behind a couple of young children is a distressing affair. The timely use of digitalis would be helpful in postponing this event, provided the heart rate is fast.

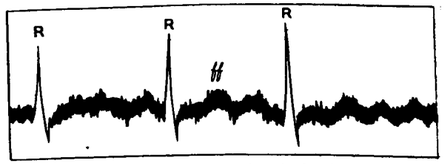

Fig. 5. Electrocardiogram of auricular fibrillation

Note the absence of P waves and the R deflections of varying amplitude.

Courtesy and Copyright: B. W. & Co. (The Wellcome Foundation Ltd.)

Another indication for the use of digitalis is tachycardia, because by its stimulating action on the vagus heart is slowed down. When tachycardia is of a reflex or nervous origin; or when occurring in the course of a febrile illness, tuberculosis or associated with thyrotoxicosis and other toxic conditions; or when it is the result of emotional excitements, digitalis has least effect. Under these circumstances, i. e., if the heart has adjusted itself to the maintenance of cell life and the sympathetic action is fully aroused, the vagal action through digitalis is incapable of asserting itself, nor is it logical to interfere with it.

In congestive heart failure its use is beneficial and it promotes diuresis, when oedema is present.

In primary left ventricular failure where the peripheral oedema is minimal, and the predominant feature is cardiac distress, digitalis is indicated.

The contraindication for its use are bradycardia, and peripheral circulatory failure

due to shock. In these conditions it is known to handicap recovery. It is believed to increase the post-operative death rate in thyrotoxicosis. In aortic regurgitation, the objection to its use is the prolongation of diastolic period and consequent enhancement of regurgitation. Cushney speaking against this view says that when the heart is slowed by digitalis, its beat is strengthened and there is an increase in the output per unit of time which would more than compensate for any slight increase in the regurgitation. It is also argued that "less favourable results obtained in aortic than mitral disease are explained partly by the greater frequency of associated myocardial changes". In short, its use in aortic regurgitation should be under careful observation. The digitalis should be used when the patient is confined to bed and the ventricular action is feeble, fast and irregular. If the heart's action is slow it should not be used. Another factor that should be borne in mind is that digitalis takes two to three days to come into action when prescribed in a normal dose, but once it has come into action its effect is stable and progressive and without any variation from time to time.

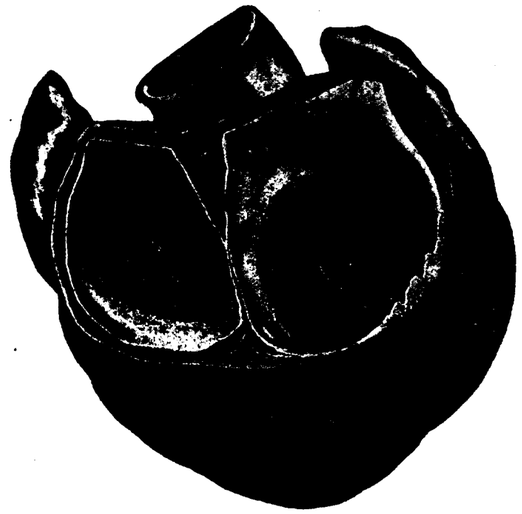

Fig. 6 Mitral stenosis with hypertrophy of the left auricle, resulting in auricular fibrillation. There is also stenosis of the tricuspid

(*Courtesy and Copyright*: B. W. & Co. (The Wellcome Foundation Ltd.)

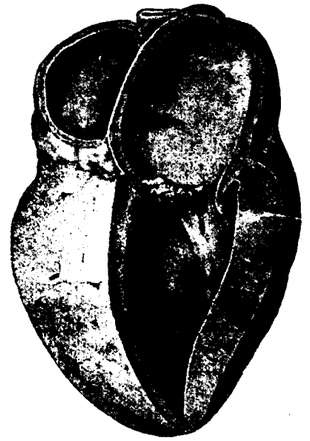

Fig. 7

Hypertrophy of the heart and mitral diseases with stenosis, leading to auricular fibrillation.

Digitalis Intoxication.—The symptoms of overdose appear as the precise point is reached when any further administration of the drug is followed by toxic symptoms. Anorexia and frontal headache are the earliest symptoms, to be followed by nausea and vomiting, and these are the indications for the drug to be discontinued, to be followed later by its readministration but in a reduced dose. Diarrhoea is a less frequent and late symptom of poisoning. It denotes advanced degree of toxicity. The signs of overdose are a fall in the heart rate to below 60, and coupling of beats—one strong beat followed by a weak beat, extra systole and partial or complete heart block. The development of paroxysmal tachycardia is another danger signal, and it may be followed by delirium, epileptiform attacks or even sudden death.

The choice of the preparation to be used depends upon the idiosyncrasy to the drug. In one of my patients the use of digitalis folia was followed on the very second day of administration by vomiting which stopped on withholding it. But the tincture well diluted was tolerated without any ill effects. Digoxin, a purified glucoside derived from digitalis, is a reliable product and excellent results have been obtained after its use. Its use is followed by a rapid fall in the ventricular rate. The intravenous injection of this is followed by a prompt response. It is available in 1 cc ampoules containing 0·5 mgm which should be well diluted with 10 cc of freshly prepared sterile normal saline solution before intravenous

use. The improvement brought about in portal congestion and the engorgement of the gastric mucosa, which is genarally the cause of constant vomiting thus precluding effective oral administration, after the use of intravenous injection will be followed by the ability to receive oral medication. Or else one or two drachms of tincture diluted with two to three ounces of warm saline with 5% glucose may be injected slowly per rectum as an absorbent enema for a few days to improve the symtoms of congestive failure before oral administration can be tolerated.

Other stimulant drugs in common use are primarily respiratory stimulants and produce secondarily beneficial effect on heart as a stimulant.

1. CAFFEINE.—It stimulates the entire nervous system and is therapeutically used as a medullary stimulant. It is a benefical drug in the treatment of circulatory failure. Caffeina sodium benzoate, 2 to 5 grains, may be used subcutaneously.

2. STRYCHNIA.—About the efficacy of this drug there is a divergence of opinion between the pharmacologists and the clinicians. The former assert that it has no action on the cardiac muscle but it is a vasomotor and respiratory stimulant and it increases the excitability of the nervous system. On the contrary, it is extensively used in conditions where failure of the circulation with weakness of the heart is one of the main features clinically. Its beneficial effect is most marked in cases where the failure is primarily vascular and not cardiac. Therefore precision in diagnosis is very essential. In toxic conditions where vasomotor centre is depressed, its stimulating effect is less marked and the same is the case when the nervous system is so much depressed that it is incapable of response to a stimulus. Under these circumstances the effectual dose capable of response is 1/10 to 1/8 of a grain, the normal dose being 1/64th to 1/16th gr.

3. ADRENALINE.—Its action is stable, it increases the force of heart beat and stimulates the vasoconstrictors. Therefore in conditions of low blood pressure with feeble heart, it brings about a lasting or a sustained improvement in the circulation. Its stimulating effect depends irrespective of the conditions of the nervous system and its capacity to react. Therefore even in severe toxic circulatory weakness when other remedies generally fail, it has succeeded in saving life, hence its use is generally reserved in cases of forlorn hope. It may be given intravenously in 0.2 c.c. doses every 2 hours rather than a single large dose. In sudden stoppage of the heart due to drowning, carbon monoxide poisoning and cardiac paralysis in later stage of chloroform administration it may recommence the beating of heart, provided it is directly injected into the heart. Ten minims are sufficient in such a condition. On account of its rapid action and by virtue of its capacity to bring about redistribution of blood by constricting the peripheral arterioles, but not having any constricting influence on the cerebral, pulmonary and coronary arteries, it is usefully employed in shock due to severe loss of blood and is generally combined with saline infusions. It is also useful in cases of complete heart block.

4. PITUITRIN.—It does not cause redistribution of blood. Its action is stable and lasting though it acts rather slowly. In severe shock during surgical operations and in that of cholera, it is particularly useful due to its diuretic properties and also because it contracts all the vessels except renal artery.

5. Alcohol.—Concentrated alcohol, like brandy and rum, by their reflex stimulating effect on the medullary centre, is generally used in cases of sudden fainting in more or less healthy people, and this usually brings about improvement. This effect is not due to its direct action on the heart after absorption but is a reflex one. It has no reflex stimulating effect in healthy persons but occurs only in a patient semiconscious or unconscious due to failure of circulation. Therefore its use is restricted to patients suffering from gradual circulatory failure i. e., in cases of prolonged illnes. It causes redistribution of blood by dilating the peripheral vessels of the skin and this is done at the expense of internal organs, the vessels of which are constricted. Therefore in a condition of collapse in an accute illness of short and limited duration, the patient may revive and circulation may improve in a most extraordinary way. This effect is usually brought about by its action as diffusible stimulant of the central nervous system and not due to its any direct effect on the heart muscle. It is therefore commonly used in febrile cases and in cases of lobar pneumonia, and the results are generally favourable. Lately its use has been limited on the ground that it has no direct stimulating effect on the heart and that it has a late depressing influence on the body. If its use lessens delirium and produces sleep, or temprature becomes less; the tongue, which is previously dry shows signs o moistening; or the respiratory embarrassmen

becomes less, its use in the later stages of illness for a few days may tide the patient over the critical juncture. Otherwise it should not be used on account of its late depressing influence.

6. CAMPHOR.—Camphor in oil has been widely used lately but regarding its efficacy divergent views have been reported from various sources. Pharmacologically it is proved that it has no direct action on the heart. But clinically it has been reported by some as remedy *par excellence*. Dr. Izod Bennet observes that startling effects by the use of large doses of camphor given intramuscularly are by no means rare. It has been given in 20 grain dose in a single administration, whereas others report that it has absolutely failed and has in some cases done harm. But the use of digitalis in the same patient improves the condition. Like alcohol it is a peripheral stimulant and causes flushing of the skin and redistribution of blood and thereby improvement in the circulation.

7. CALCIUM INTRAVENOUSLY.—In a serious exhausting illness the cardiac muscle is adversely affected and usually there is a reduction in the calcium content of the blood and the tissues, which is most marked in a cardiac muscle. A single injection may replenish the calcium and cause a shining glow and flushing with feeling of warmth and general well-being. It lessens the irritability of the brain which is a marked feature of calcium depletion. It exercises a marked tonic effect on the heart. The blood pressure is raised and rate of heart becomes slow. The treatment may be supplemented by the use of glucose, particularly in typhoid cases. Calcium may be used to augment digitalis treatmeut when the exhausted pumping action of the heart is unable to maintain the circulation.

8. EPHEDRINE.—It controls anaphylaxis, and is a stimulant to the central nervous system, particularly the sympathetic. It causes general vaso-constriction and thus rises the blood pressure. There is increased coronary flow and the heart beat is accelerated and augmented.

9. REMOVAL OF FLUID.—There may be severe dyspnoea due to accumulation of fluid in the abdomen and chest. There may even be general anasarca. Removal of fluid from the chest and abdomen will afford comfort to the patient by relieving breathlessness.

10. VENESECTION.—The principle on which it is based is to reduce the amount of accumulated blood behind the right heart and thereby relieve the congestion. This is an ancient practice and has withstood the test of time as a measure of considerable value in bringing immediate relief to the exhausted myocardium. Yet this procedure is seldom practised in these days, the probable reason for the apathy being that it is distressing to the patient or his relatives to bleed a patient already in severe distress. The physcian need not be alarmed because it is a practice of established merit, provided it is done in proper time and not less than 10 to 20 oz. of blood is withdrawn. If a sufficient amount of blood is withdrawn the immediate relief is pronounced in reducing orthoponea and extreme cyanosis.

11. OXYGEN.—The inhalaltions of oxygen continuously or for varying periods according to the needs of the patient are indicated when there is cyanosis and dyspnœa due to reduction in the aeration in the lung field. The failure of oxygen therapy depends upon the following factors:

(*a*) In anæmia when there is deficiency of hæmoglobin in the blood, the patient is not benefited by an increase in the supply of oxygen. Such patients can only be benefited by oxygen therapy after blood transfusion, and thereby increasing oxygen transport medium viz., hæmoglobin in in the blood.

(*b*) When methæmoglobin is circulating in blood the oxygen absorption power is reduced, and therefore no improvement will follow by increasing the oxygen pressure in the alveoli.

(*c*) When the myocardial force of the heart is lost resulting in the slowing of the blood stream, the time factor is increased for the oxyhæmoglobin to part with its oxygen in the tissues, in a large measure.

FOREIGN MEDICAL NEWS

Our London Letter

(From Our Own Correspondent)

HEALTH OF THE SCHOOL CHILD

Sir Arthur Mac Nalty's report is always interesting, and the one for 1938 on the health of the school child is no exception although the war-exigencies have curtailed the usual chapters on special subjects. There was a certain amount of disorganisation of the School Medical Service owing to the evacuation of children from large urban areas but none the less the Service was satisfactory. There were on the whole 1518 School Medical Officers, 1065 specialists, 1009 dentists and 5431 nurses and the number of medical examinations during the year 1938 were about 5½ millions. The School Dental Service was particularly prominent in its work, although some of the parents refused to allow their children to be treated. The steady increase in the table of average heights and weights show striking improvement and the nutritional condition of the school child has gone into every six months. More than be[illegible]hs of children were in receipt of free meals [illegible]k. The report concludes that "while we are far from perfection, school children of to-day general health, in physique, and in stature are infinitely better than when the School Medical Service began its task".

WHITHER MEDICINE?

Under this caption, the Socialist Medical Association has recently brought about a publication in which are discussed the developments of British Medicine. the changes that are taking place in other countries, and the changes that are needed in Great Britain. It reviews the British Medical Association's official plan, the *Lancet's* plan for hospital, the Walker and the Waltan's plan, etc. The scheme embodied in this publication lay stress on preventive medicine and on the need of the State to assume responsibility for the health of the people without financial distinction and class irregularities. Common points of agreement in all the schemes referred to in this book are (1) A complete medical service (2) Security and opportunity of advancement for the doctor (3) Association of family doctors with the hospitals. (4) Regionalization of hospitals according to the density of the population. (5) Uniformity in administration.

There is no dearth of plans or schemes of National Medical Service, some of which are too revolutionary for adoption while a few are merely idealistic without reference to tradition or past experience. The feeling in favour of State Medical Service arises from the fact that when war is over people would be so affected economically that they would not be in a position to pay for medical aid. But no one is certain what changes will be effected in this island or what would be the nature and extant of adjustments needed as an after-math of the present war. I think speculation in this respect though pleasant as an intellectual exercise is, more likely than not, bound to prove futile and to be far from what may actually happen.

PUBLIC HEALTH IN WAR TIME

Sir Arthur Mac Nalty, the Chief Medical Officer to the Ministry of Health, gave a brilliant exposition of Public Health during war time at the Royal Society of Tropical Medicine and Hygine on Feb. 20, 1940. In the course of his lecture he showed for what reasons the Emergency Medical Service was organised and the evacuation of large urban areas had to be undertaken, and what stupendous tasks these proved to be. He said that both were completed successfully and although there were complaints of personal hardship and financial loss in many cases the Government was rightly impenitent inasmuch as there was no other course open to them and as it would have been exposed to blame if the war has been ushered in by extensive air raids and consequent numerous civilian fatalities. After stressing on port sanitary control, pure water supply, notification of infectious disease, hospital isolation and maintenance of adequate nutrition, he referred to the need for special care regarding certain diseases that are likely to be a danger in the present war. They were: Deficiency diseases, tuberculosis, venereal diseases, influenza, measles, and whooping cough and cerebro-spinal fever. "The Civilian arm" he concluded with some emotion "has yet to receive its baptism of fire. If that stern ordeal comes I have little doubt it will endeavour to keep the flag of national health flying in the storm of war as zealously as it did in the sunshine of peace".

INDIAN MEDICAL NEWS

(From Our Own Correspondent)

CHOLERA VACCINES IN THE MARKET

How necessary it is that those who carry out inoculation against cholera with vaccine purchased in the open market, should have samples tested periodically to ensure that they are capable of giving protection and are sterile and safe for use, is revealed by a test lately made at the Central Research Institute, Kasauli. Certain samples of cholera vaccine manufactured commercially and supplied to a Public Health Department in India, were examined at the Institute, and it was found that suitable true cholera strains had not been used in the preparation. The sterility test also showed that the vaccine was contaminated and, therefore, not fit for use. It is quite possible that an appreciable amount of commercially produced, vaccine on sale in the market is of a similar type.

The value of inoculation against cholera is now generally recognised, but it is not sufficiently realised yet that, to be effective, the vaccine should be of good quality and be prepared from the genuine cholera organism. The view of the Cholera Advisory Committee of the Indian Research Fund Association, which was accepted by the Medical Research Conference, is that no protection against cholera can be expected from vaccine not prepared from the strains of the true organism.

DECEPTIVE ORGANISMS

Recent research work, under the Indian Research Fund Association, has thrown new light on the nature of the cholera organism. It has been shown that there are many organisms in nature which resemble the cholera organism, but do not cause the disease.

To ensure that vaccine is made from the correct strains, it is desirable that strains tested and issued by certain specified laboratories, which have been continuously engaged in the study of the cholera vibrio should be used. The Directors of the Central Research Institute, Kasauli, the Calcutta School of Tropical Medicine and the King Institute, Guindy, have expressed their willingness to issue suitable strains to all laboratories, including those of commercial firms, for this purpose.

The Cholera Advisory Committee have made certain recommendations on the technique of manufacture of cholera vaccine and the strains to be used, details of which may be had from the office of the Public Health Commissioner with the Government of India.

MADRAS HAS THE LARGEST STOCK OF RADIUM IN INDIA

The uses of Radium and its emanation, Radon, were explained by Mr. V. Krishnamurthi, Physicist of the Barnard Institute of Radiology, in a University extension lecture delivered at the Examination Hall on March 23-3-1940. His subject was "Radium and Conquest of Human Suffering," and he referred to the process of manufacture of the element with the aid of lantern slides. Dr. T. S. Tirumurti, Principal of the Standley Medical College, presided.

Mr. Krishnamurthy said that Radon was very valuable and possessed properties similar to those of the parent substance, Radium. It could be extracted in glass capillaries by skilled physicists and could be suitably used in the place of radium needles. The life of Radon was very small compared to that of Radium, and yet the use of "Radon seeds" was advantageous since the monetary value of Radon was negligible and the loss through accident or theft as compared to Radium, was little.

The lecturer added that in his Province, the Government had provided up-to-date radiological facilities in the Barnard Institute. Madras Presidency not only had the largest stock of Radium in India to-day, it was the only place in the East where Radon was extracted and used. The Government possessed 1,520 milligrams of Radium, of which 850 milligrams was kept in solution for the purpose of extracting Radon. The daily yield of Radon was despatched to the [illegible]moffussil cancer treatment centres and the [illegible] in the Hospital in the City was also supplied. The [illegible]ed by [illegible]reby of the element was distributed in 256 needles [illegible] in four plaques, used in the City hospitals.

SELECT COMMITTEE'S REPORT ON THE DRUGS BILL

The report of the Select Committee on the Bill to regulate the import into, and the manufacture, distribution and sale in, British India of drugs, was presented to the Assembly

The Committee say that they should have preferred to find included in the present legislation provisions dealing also with pharmacy, and for bringing the pharmaceutical profession under the salutary control provided for in the Bill. The Committee have, however, received an assurance that the Central Government will take steps immediately to consult Provincial Governments with a view to undertaking such legislation as early as possible. In the meantime, the committee have made increased provision for representation of the pharmaceutical profession on the Drugs Technical Advisory Board by the addition of a provision for the nomination, by the Central Government, of one additional member of that profession; and they have been assured that when the proposed legislation on pharmacy has been enacted, Government will consider the amendment of the provisions contained in this Bill relating to the constitution of the Drugs Technical Advisory Board.

MISBRANDED DRUGS

The Committee consider that the operation of chapter (3) of the bill should be postponed long enough to allow the interests concerned full time to adjust themselves to the altered conditions which are to be imposed upon them. This chapter, among other things, defines "misbranded" drugs

and prohibits the import of drugs which are misbranded and are not of standard quality, etc.

The Committee consider it highly desirable that chapter (4), which seeks to regulate the manufacture, sale and distribution of drugs, should be brought into operation simultaneously in all provinces. The Committee say that they are given to understand that every effort will be made to achieve this, by using, for the purposes of co-ordination the action of the Provincial Governments, the facilities for consulation afforded by the Central Advisory Board of Health, a body on which various provinces are represented.

The Committee have enlarged the number of members of the Drugs Technical Advisory Board and the elements represented on it, and by alterations in the electorates have endeavoured to secure that persons with technical qualifications will be elected.

A dissenting minute signed by three members (Mr. S. K. Som, Col. H. Rahman and Maulvi M. A. Ghani) says that the Bill does not go far enough as it does not include the control of the pharmaceutical profession. They point to a number of other omissions which they regard as serious, and refer, among other things, to the absence of control of unani, ayurvedic and homoepathic patents.

SIR JAMES ROBERTS AT MADRAS

Lt.-Col. Sir James Roberts, I. M. S. (Retd), President of Dewas State Council, gave two interesting lectures, during March, on the utility of carbolic injections in Pulmonary tuberculosis and in senile prostatic enlargement. This 'new' treatment, he said, consisted in a course of injections directly into the lesions.

He said that after his retirement from Government service, he started experiments to find out a suitable course of treatment for the disease which was working havoc among a vast number of the population, and he believed that his new treatment could arrest the disease in any part of the body. He also said that enlarged prostates could be cured without operation by means of direct injections. This new system of treatment had brought relief to many patients in Dewas.

Continuing, Sir James said that certain principles had to be followed in order to obtain some measure of success. The solution employed should be of carbolic acid, glycerine and water with a strength of 1 in 60, and the same had to be injected in doses of 1 to 2 c.c. directly into the focus in the lungs as shown in the X-Ray photo, or into joints, bones, tubercular abscesses, or under mucous membranes or outside sinuses. The solution was a direct specific for the destruction of the tubercular bacillus in the immature or degenerating stages of their one month or so of existence. It would appear from innumerable experiments made in America and Europe that drug therapy along the lines of hypodermic, intra-muscular or intra-venous injections had no promise of success.

TUBERCULOSIS NOTES AND NEWS

The Tuberculosis Association of India*

● Dr. C. Frimodt Moller

The meagre anti-tuberculosis activities in this vast sub-continent received a much-needed stimulus and a great impetus when Her Excellency the Marchioness of Linlithgow landed in India as its present Vicereine.

Familiar with the campaign against tuberculosis in England and for years personally connected with one of its great anti-tuberculosis measures, Her Excellency first spent a considerable time in studying the whole problem in India. As a result of this personal inquiry as to the best policy to adopt in the presnt tuberculosis situation, Lady Linlithgow issued on December 1, 1937, her great appeal for the "King-Emperor's Anti-Tuberculosis Fund."

Formation of the Tuberculosis Association of India

Preparations were made during 1938 for the formation of a new All-India tuberculosis organisation, and a constitution was drawn up. On February 23, 1939, "The Tuberculosis Association of India" was legally registered and the inaugural meeting was held on March 29, 1939, at the Viceroy's House in New Delhi.

The amount to be retained by the Central Association in Delhi aggregated to Rs. 5,44,019. This sum was increased by winding up on February 24, 1939, the affairs of "The King George Thanksgiving (Anti-Tuberculosis) Fund," and its endowment (amounting to Rs. 11,53,100) and its cash balance were transferred to the central organisation of the Tuberculosis Association of India in accordance with previous approval of the Indian Red Cross Society. The total endowment of the Tuberculosis Association of India is therefore Rs. 16,97,119.

*Extracted from the *Br. Jr. of Tuberculosis*, Jan. 1940.

The Patron of the Association is His Excellency the Viceroy, whose approval is necessary to alter or amend the Rules and Regulations of the Association and for expending any part of the corpus of the two Funds transferred to the Association. The Patron decides also what part of the Fund is corpus and what part is the income of it.

Activities of the Central Association

The general management of the affairs of the Association is vested in and rests with the Central Committee in Delhi. This Committee consists of twenty-eight members. Besides a few official members, the Committee contains two representatives of the Central Legislature elected by the Legislative Assembly and by the Council of State respectively, one by the Indian Red Cross Society, rapresentatives elected by the Annual General Meeting of the Association, representatives elected by the affiliated bodies, and a few co-opted members.

The President is Her Excellancy the Marchioness of Linlithgow, and the Chairman, ex-officio, is the Director-General, Indian Medical Service.

The affiliated bodies consist of Provincial and State organisations as well as of other institutions. Each branch and affiliated body is independent in the administration of its funds and the conduct of its operations except as regards the control over the activities of such branch or affiliated body which are partially or wholly financed by the Central Committee. All branches and affiliated bodies shall furnish an annual report and shall assist in the furtherance of the common object of the Association.

It will not be difficult to understand that such decentralisation with independent branches is a necessity in a country as large as the whole of Europe without Russia. Nevertheless, the Central Committee should be of great help to all branches and affiliated bodies through its various activities.

Although the Central Association exercises no controlling influence over the affiliated associations, it renders through its Medical Commissioner all possible help to them in the development of their schemes, both of contemplated new work and of that already existing, with the view that experience from other parts of India should become available to each affiliated association deciding to benefit by it.

The Central Association not only offers to help the branches with regard to the tuberculosis policy most suitable to local conditions in the various Provinces and States, but offers also, through its Medical Commissioner, more detailed help concerning location, construction, equipment, staffing and functions of tuberculosis clinics and other tuberculosis institutions.

The way in which the tuberculosis problem will be and must be tackled in the Provinces will vary both according to already existing anti-tuberculosis activities and to the resources available in each Province. There is, however, a certain general tuberculosis policy which will be followed all over India, and which is to a great extent different from the policy now adopted in most of the countries in the West. In these countries there has now come to exist a more or less uniform scheme, combining all the various measures duly co-ordinated for combating the disease. A wholesale transference of all the links of the Western co-ordinated scheme for the whole of India is, of course, at present totally out of question. In the campaign in India the tuberculosis clinic must occupy the forefront in the campaign, although it will not be possible to provide immediately a great number of beds for the patients detected by the clinics. The organisation of clinic has therefore to be modified and will differ from that found in Europe. Much more treatment has to be given in the clinics in India; and each clinic ought to have a few beds of its own, to be used for beginning pneumothorax treatment or for patients needing special observation for establishing a final diagnosis. The conditions existing in India with almost negligible facilities for institutional treatment force the home treatment to be relied upon to a degree not considered right in the west. One of the chief objects of the clinic in India must be to support and guide this home treatment in the best possible way by a thorough co-operation with the private practitioners. The clinic specialist should induce pneumothorax treatment and give subsequent refills, if possible at the clinic, whle the private practitioners look after the patients in their home in constant consultation with the clinic doctor. The clinics in India will in this way have to be far more advisory centres for the private practitioners than is the case in the West. This is necessitated by the present very inadequate teaching in the treatment of tuberculosis which is available for private practitioners, due to the lack of facilities for clinical instruction in many parts of India.

One of the important activities of the Central Association is therefore the help it should be able to render in seeing training centres established in each Province and larger States, where doctors could become specialists in tuberculosis with a view to the proper staffing of the increasing number of clinics and also of other tuberculosis institutions now coming into existence all over India.

It is also to be one of its activities to promote and assist research work in tuberculosis and in special investigations of tuberculosis problems which are peculiar to conditions found in this country with climatic, social, racial and economic factors so different from those in the West.

Further, the Central Association is intending to arrange an information and statistical bureau which will collect, analyse and distribute informa-

Sir James said that over 125,000 injections had been given into the lungs without any mishap. The technique once acquired even though delicate was not dangerous.

This method was initiated by Sir James Roberts and developed during the last eight years. It was specially intended to meet Indian conditions, being simple and inexpensive. As the idea was revolutionary it met with opposition, but Sir James said that the new treatment had spread throughout the country and various centres including individual doctors had taken it up.

The personal Assisant of Sir James, Dr. Purohit, will stay at Madras for some time and give demonstrations of the new treatment to the members of the medical profession.

It may, however, be noted in passing that the recent Tuberculosis Workers' Conference which met at New Delhi expressed the opinion that the experience of those who tried it was against continuing this method of treatment.

tion on all tuberculosis matters not only for affiliated associations, but also for institutions, the medical profession, the press and the general public. Such a bureau will require the creation of a good library containing the most important literature on all matters connected with tuberculosis.

A part of the co-ordinating activities of the Central Association will be the publication of a journal dealing with various tuberculosis activities in India and elsewhere and containing general propaganda material. Possibly, later on, a medical journal for tuberculosis in India might be found desirable and practicable.

The creation and maintenance of tuberculosis institutions will rest with the Provincial and State organisations, although the centre will always be ready to offer expert advice in these matters. It may, however, be necessary as one of the activities of the Central Association to establish, organise, support and staff a model tuberculosis clinic in Delhi and a modern sanatorium of a considerable size not far from it—as well as to co-operate with a tuberculosis hospital in Delhi itself—for the sake of meeting its educational and research responsibilities.

The tuberculosis Association of India is facing so overwhelming a task that it is almost paralysing, but the campaign against the disease has, nevertheless, by the formation of the Association been given new encourgement. The result of Her Excellency's appeal should not, and cannot, be measured alone by the amount raised for the King-Emperor's Fund, but the success of the appeal should be measured also by the way in which it has brought the seriousness of the tuberculosis problem in India to the forefront in the daily press, in public discussions, and in the minds of responsible administrators and of public bodies.

It is unlikely that the same results as those obtained in the West during one generation of hard fighting against the disease can be achieved in the same time in India; such results are to be expected only after two or three generations of strenuous and continuous attack on all fronts influencing the decline of tuberculosis. This should not discourage our efforts, however, nor be allowed again to produce that lethargic and despairing outlook on any attempt to put up a fight which has been so common in this country.

Epitome of Indian Medical Literature

[This column is intended to give our readers a comprehensive view of medical literature as published in the journals of our country. We hope that this epitome would be found useful both as a source of imformation and reference. More important articles are recorded and a few are briefly summarised. The epitome is given under two heads: General and Special. Ed., *I. M. J.*]

General

Jour. of the Ind. Med. Assn., Feb. 1940.

*Living Pathology of Diseased Gall Bladder—K. S. Nigam, p. 201

*Cerebro-spinal Meningitis in Calcutta—M. U. Ahmed, p. 204

*Epidemic Dropsy Glaucoma—Anath Nath Basu, p. 212

Dyspnoea—Muktesh Nath Basu, p. 216

*Diseased gall bladder, writes Nigam, is one of the frequent organic causes of chronic dyspepsia. Of the pathological states of gall bladder that which mostly concerns the practitioners is chronic cholecystitis due to infection through the systemic circulation. Acute cholecystitis is noted for the rapid onset of abdominal pain with nausea and repeated vomiting. Pain and tenderness of muscles under the right sub-costal margin, temperature upto 101—102°F, and polymorphonuclear leucocytosis are other features. Gall bladder may be found distended and tender. Ch. cholecystitis, with or without gall stones, is characterised by flatulent dyspepsia and ill-health, palpitation and fainting fits. Pain may be located immediately below the sternal margin. Recurrent colicky attacks with aggravation of tenderness vomiting and icterus indicate the presence of gall stones. A thorough clinical history, duodenal intubation for the purpose of microscopic and cultural tests, cholecystography and biochemical investigation of blood, should be instituted to confirm diagnosis. Nigam suggests surgical treatment if there is persistent dyspepsia, and gall stones visualisation by skiagraphy. But he warns that no cholecystectomy should be done without the surgeon demonstrating by neat dissection the relations of extrahepatic biliary passage to avoid tear or bruising of the bile passages,

*Ahmed and Ray find that there is no co-relation between overcrowding and the incidence of cerebrospinal meningitis. The recorded figures give a mortality of 70·6%. The highest rate of incidence is associated with labouring class and the lowest with the shipand boat owners.

*Basu emphasizes the havoc caused by epidemic dropsy glaucoma among the people of Bengal. He notes that the disease has a tendeney to recur and stresses that the disease should be treated before and after operation, if at all operation is necessary.

Indian Medical Gazette, Feb. 1940

Circulatory failure in typhoid fever—Gerard Kelly, p. 65.

*Further light on the mechanism of Sand-fly transmission of Kala-azar—Smith, Halder and Ahmed, p 67.

*The venom of Indian cobra in certain painful conditions—Chopra and Chowhan, p. 69.

The treatment of carbuncle in the O. P. D.—Chitta Ranjan Dutt, p. 75.

*Observations on the pathology and therapy of the so called Forntier Sore—Hamburger, p. 76.

Anginal pain of aortic origin—R. J. Vakil, p. 79.

Studies in the epidemiology of plague in the Nizam's Dominions—Raghavendra Rao, p. 80.

*Vitamin C and ovulation—Pillai, p. 91.

*A new method of treating leucoderma—Panja and Maplestone, p. 93.

*It was till now believed that *Phlebotomes Argentipus* could not live without blood. Therefore the artificial feeeding of sand-flies involved the use of blood in some form or other. It was thus thought that they could not be kept alive in the laboratory without a blood feed. Smith *et al* have now made successful attempts to keep these insects quite alive for long periods by feeding them on resins in much the same manner as mosquitoes. They further observe that the inability of the sandflies to obtain blood after piercing the skin of an animal is due to the enormous number of flagellates in the oesophagus and that these "blocked flies" are more likely to transmit infection than the ordinarily infected flies. They, in their vigorous attempt to satisfy their hunger, are likely to cause detachment of flagellates from the "block" which would easily find their way from thence into the wound. More transmission may thus be expected, the anthors conclude, from "blocked" flies than from others which though heavily infected do not exhibit this particular phenomenon.

*Chopra and Chowhan, after a number of clinical trials, find that cobra venom relieves pain of an indefinite nature in about 70% of cases. The pain disappears slowly but the effect is lasting, and there were no untoward symptoms The injectable cobra venom was prepared at the School of Tropical Medicine and is a colloidal solution of fresh venom of the Indian cobra. The injections were given intramuscularly, twice or thrice weekly, in doses ranging from 1 to 20 mouse units. In some cases larger doses were employed and vitamin B_1 also was administered.

*Frontier Sore, writes Hamburger, is not a Leishmanial infection. Evidence suggests that it is a non-bacterial disease carried by an insect. Prontosil rubrum locally is effective and superior to AS_2.

*Pillai suggests that estimation of vitamin C in the urine may form an easy method for deciding the day of ovulation. He urges further investigation.

*Panjit and Maplestone give four illustrative cases of leucoderma which were cured by intradermal injection of oil of bouchi. Hitherto the oil was used for inunction only. Large depigmented patches were not found capable of treatment with this method due to pain, irritation and ulceration resulting from the injection of the oil.

Calcutta Medical Journal, Dec. 1939.

*Sodium Nitrate Therapy in Retrobulbar Neuritis—Bhaduri, p. 379.

Bengali diet with reference to metabolism and health—Seal, p. 390.

*Observations ou hyperemesis gravidarum—Chuni Lal Mukherjee, p. 411.

*Bhaduri reports 6 cases of retrobulbar neuritis treated successfully with sodi nitrite. The drug was introduced into the vein, 0·02 grammes in 2 to 5 c.c. of water. B. P. was noted before injection. The success of this treatment confirms the suggestion of Duggan that a vascular spasm is usually the immediate cause of loss of sight in case of retrobulbar neuritis of unknown origin, no matter whether it is associated with multiple sclerosis or not.

*Mukherjee writes that hyperemesis gravidarum is difficult to define. Vomiting may occur early or late in pregnancy. The late variety is prabably a manifestation of pregnancy toxæmia. The early variety may be due to reflex, neurotic or toxic causes. The condition is common in primipara. Treatment should be directed on three lines: maintenance of water-balance; maintenance of carbohydrate metabolism at an optimum level; maintenance of basal metabolic functions. Death is due to toxæmia, uremia or acidosis.

Med. Bulletin, Feb. 17th and Mar. 2, 1940.

Danger of streptococci in obstetric pratice—Purandare, p.105.

*Streptococcal infection in obstetrics—Shirodkar, p.116.

*Stroptococcal infection of the skin—Maniar, p.119.

*Evolution of chemotherapy of bacterial infections—Paranjpe, p.123.

*Eczema—Oscar Gans, p.143.

*The Sulphonamides and streptococcal infection—Deshmukh, p.147.

*Most of the articles in these two issues of Medical Bulletin deal with streptococcal infection and its treatment with sulphonamides. Purandare describes the role of streptococci in obstetric practice. But he points out that there may be organisms other than streptococcus hæmolyticus causing puerperal sepsis. Of these he mentions, staphylococci, B. coli, clostridium welchi, tetanus bacillus, gonococcus and pneumococcus. He realises the risk of sulphanilamides.

*Shirodkar draws attention to the breaches of the normal surface of vagina and cervix as an important ætiological factor in surgical infections. Since the obstetrician's work is very near the anus and rectum great care should be taken against infection. He recommends prophylactive use of glycerine mercurochrome 1—500 for vaginal instillation.

*Maniar deals with streptococcal infections of the skin, such as erysipelas and advises both local and chemotherapeutic treatment.

*Paranjpe traces the discovery of prontosil and the subsequent preparations of sulphanilamides. These preparations belong to two groups: (1)

compounds of sulphone type which are chemically unrelated to sulphanilamide. (2) The substitution products of sulphanilamide. The comparative value of these products, he says, is yet undecided and that further work on absorption, excretion and transformation of these drugs is needed for better understanding of its action, efficacy and failures.

*Deshmukh suggests that administration of nicotonic acid 50 m.g. side by side with sulphanilamide decreases mental apathy, porphyrinurea and other unpleasant symptoms of this treatment.

*Shah gives the following list of general diseases where sulphanilamide preparations have been found useful: Erysipelas, scarlet fever, streptococcal meningitis, bacterial endocarditis, streptococcal empyema, acute rheumatic infection, streptococcal sore throat and streptococcal carriers.

Special

(Only the more important articles are mentioned.)

Patna Jour. of Medicine, October 1939

Vitamins: Givers of life and builders of health—Rudra, p. 297.

The psychology of the teeth—Owen Berkley Hill, p. 311.

* Analysis of 202 cases treated with ultra-violet rays—Ahamed, p. 316.

Some urgent ocular conditions—Ahan, p. 328.

Treatment of piles by injection—Das Gupta, p. 388.

*Ahmad regrets that the general practitioners in India either do not use ultra-violet therapy or do so in a very half-hearted manner. His experience has been that it can be applied to many a condition such as tuberculosis, rickets, skin diseases, rheumatism, etc. He met with one case of intolerance to U. V. and vitamin A and D in a child, another with adverse effect, and 6 cases of reaction. On the whole, he believes that U. V. therapy is rapid in its action and beneficial in results.

Medical Digest, Feb. 1940.

Turpentine in isotonic aqueous solution—Renne Danne, P.85.

Crusade against microscopic enemies of man—Dutt. p. 39.

Sind Medical Journal, Dec. 1939

Ostomalacia—Ahuja, p. 102.

Solar radiations—Mehta, p. 104.

Antiseptic, March 1940.

Rauvolfia serpentina—Ghosh, p. 249.

Functional and reflex disorder of E. N. and T.—Kamath, p. 253.

Treatment of skin diseases—Ram Rao, p. 262.

*Malarial enteritis—Gunwardena, p. 267.

Treatment of eclampsia—Mallik, p. 270.

*Gunwardena mentions two varieties of malarial enteritis: (1) toxic passing cholera-like stools; (2) stools containing blood, pus and mucus. These, he says, occur during epidemics of malaria and in patients who are constantly subjected to malarial attacks. He reviews 20 cases.

Ind. Jr. of Med. Res.

*Biochemical and serological classification of the staphylococci—Goyle and Minchen, p. 611.

Diptheritic ulcers of the skin—Psaricha and Punja, p. 643.

The nicotonic acid content of cereals and pellagra—Aykroyd and Swaminathan, p. 667.

*The value of methylene blue on M. leprae—Dharmendra and Mukherji, p. 625.

Studies in vitamin A deficiency—Radhakrishna, p. 731.

Pellagra in India—Raman, p. 743.

*In the examination of 101 Indian strains of staphyloccocci Goyle and Minchen found: (1) 76% of strains from pathological sources was pigmented and gave a positive coagulase test; (2) 76% from healthy skin was non-pigmented and gave negative coagulase test; (3) 33% of strains from pathological sources showed agglutination with Cowan's serologic types as compared to 18% of strains from healthy skins.

*Methylene blue in vitro has no attenuating effect on or any effect on the acid test property of myco leprae muris. In vivo, it has no degenerating action on M. leprae, nor does it in any way change its morphology or straining properties.

Indian Journal of Pediatrics, Jan. 1940

*Eventration of the diaphregm in childhood—Chandra and Reddy —p. 1

Vaccination in Calcutta—Das Gupta, p. 9.

*Nutritional disturbances in children—Ronald, p. 20.

*Difficulties in clinical diagnosis of eventration of diaphragm in children is stressed and the authors give an illustrative case.

*Ronald classifies nutritional disturbances of infancy as follows (a) acute— (1) thirst injuries; (2) dyspepsia; (3) hydrolability; (4) intoxication. (b) chronic— (1) dystrophy and atrophy.

Indian Dental Journal, March 1940

Dental Amalgam—Mewar, p. 1.

*Post-extraction difficulties—Sahasrabudhe, p. 4.

*The author mentions three chief difficulties: (1) hæmorrhage; (2) swelling; (3) dry socket.

Indian Journal of Venereal Diseases, Dec. 1939

Bacteriological and toxicological investigation of a colloidal silver and mercury ointment for venereal prophylaxis—Lubowe, p. 190.

Sulphanilamide—A Survey—Yoder, p. 193.

*Evidence for the use of sulphanilamide—Long, p. 202.

*Long gives a list of infections where the experimental and clinical evidence for the use of sulphanilamide are marked in plus-minus indications. Naturally Beta haemolytic streptococci score 4 pluses in both the columns. This is an interesting table and should be referred to in original. Further he lays down four important rules regarding a patient under sulphanilamide; (1) see him daily; (2) do Hb and W. B. C. count at least every 2 days; (3) keep the patient in bed; (4) a patient in acute anaemia, fever, or dermatitis will develop toxic manifestations if therapy is resumed.

Indian Journal of Ophthalmology, Jan. 1940

Extraction of subluxated lens—Dutt, p. 2.

Foreign bodies of the eye—Mehri, p. 13.

Phlyctenular kerato-conjunctivitis—Oak, p. 17.

Connecting spastic entropian of the upper lid—Anand, p. 20.

Journal of the Obstetrics & Gynaecological Society of Northern India, June 1940

Midwifery in the Punjab—Hayes, p. 1.

,, ,, ,, ,, Mitra, p. 11.

*Functional bleeding of uterus—Bhatia, p. 16.

Tortion of uterus and its appendages—Heppolette, p. 22.

*Bhatia gives seven important aetiological factors in functional uterine bleeding: (1) atresia of the follicles; (2) abnormally prolonged follicular hormone phase and progressive proliferation of the uterine mucosa; (3) cysts of the follicles; (4) persistence of the corpus luteum; (5) corpus luteum cysts; (6) endocrine imbalance; (7) syphilis. For diagnosis he recommends (1) blood count; (2) biopsy of endometrium; (3) Wassermann examination; (4) and hysterosalpingography. The suggested treatment is by (1) food rich in vitamin C; (2) congo red; (3) calcium; (4) bromides; (5) endocrine therapy; (6) X-ray and radium.

Leprosy in India, Jan. 1940

*Leprosy and dermal leishmaniasis—Dharmendra and Chatterji, p. 4.

Treatment of trophic ulcers—Cochrane, p. 11.

Treatment of perforating ulcers with Rivanol—Das, p. 17.

Leprosy in Ancient Hindu Medicine—Dharmendra, p. 19.

*Dharmendra and Chatterji bring out very clearly, aided by illustrations, the close similarity of lesions between dermal leishmaniasis and certain lesions of leprosy. Differential diagnosis is discussed. The most useful point in making a diagnosis is a smear taken from the nodules.

Extracts from Foreign Medical Literature

Injuries of the Male Urethra

Urethral injuries, writes Hormaday (*Jr. of A. M. A.*, Jan. 27, 1940), are incurred through wide diversity of accidental traumas such as a fall from an elevated position (commonest), crushing injuries, war wounds from shrapnel, foreign bodies, etc. The external clinical picture affords a fairly accurate clue as to the nature and degree of the existing urethral injury. Little or no systemic reaction is anticipated from injury of the anterior urethra in the absence of extravasation. Shock is associated with trauma of the posterior urethra. Urethral injuries of instrumental origin should be guarded against. Early and accurate interpretation influences the type of operative procedure to be employed.

Nicotonic Acid and Encephalopathic Syndrome

Jolliffe et al (*Jr. of A. M. A.*, Jan. 27, 1940) observed 150 cases of encephalopathic syndrome characterized by clouding of consciousness, cog-wheel rigidities and uncontrollable grasping and sucking reflexes, which may or may not be associated with polyneuritis due to vitamin B_1 deficiency, with pellagra or with oculomotor signs of central neuritis. Patients manifesting this syndrome treated by hydration or hydration plus thiamin chloride almost invariably die; patients treated by hydration plus substances rich in vitamin B complex show a moderate drop in mortality, but when these patients are treated by hydration plus nicotonic acid a marked drop in their mortality results. So the authors conclude that this syndrome represents a complete deficiency of nicotonic acid. They give illustrative cases to support their conclusions.

The Prognosis of Tetanus

Basing his observations on 43 cases of tetanus Leslie Cole (*Lancet*, Jan. 27 1940) concludes as follows: (1) Patients over 60 years have small chance of success unless the disease is very mild. (2) Cardiovascular degeneration, chronic bronchitis and emphysema when combined with tonic rigidity of the chest, predispose to pneumonia, which is usually fatal. (3) Prognosis is better in women. (4) There is direct relationship between the severity of the wound and the severity of disease. (5) Wounds of the upper limb show a higher case mortality than those of the lower. (6) If incubation is less than 7 days the prognosis is usually bad; if more than 14 days it is good. (7) If the reflex spasms come on within 48 hours after the first symptoms of the disease appear, the prognosis is bad; if latter it is good. (8) It is unnecessary to give antitoxin when reflex convulsions have ceased and only tonic rigidity remains. An exception to this rule is when there is a septic wound which cannot be drained.

Sodium Sulphate Treatment of Infected Wounds

Hypertonic solution sulphate, writes Lyth (*Lancet*, Fab. 3, 1940), is much more effective in the treatment of infected wounds than either magnesium sulphate or sodium chloride. He has applied it successfully in 1096 cases of septic infection. The author explains the good results as due to the shrinkage of the swollen cells by the hypertonic solution.

Syphilitic Primary Optic Atrophy

Moore and Woods (*Am. Jour. of Ophth.*, Jan. 1940) critically examine the recent literature on the pathology and pathogenesis of syphilitic primary optic atrophy and these seem to demonstrate that it is not due to actual syphilitic inflammation of the optic nerves dependent on the presence therein of the causative organisms. F[illegible] mentions the f[illegible] theories; It may be due to virus of l[illegible]ve newe[illegible]ated with [illegible]ymphogranuloma. (2) It may be due [illegible] vascular constriction, functional or anatomic, within the optic nerves with subsequent nutritional disturbances leading to atrophy. (3) It may be due to a disturbance of the inter-relationship between the factors of intra-ocular tension and retinal arterial systolic and diastolic blood pressure. (4) It may be due to the combination of neurosyphilis and nutritional deficiency. The author thinks that pathogenesis of syphilitic optic atrophy is identical with that of tabes dorsalis itself.

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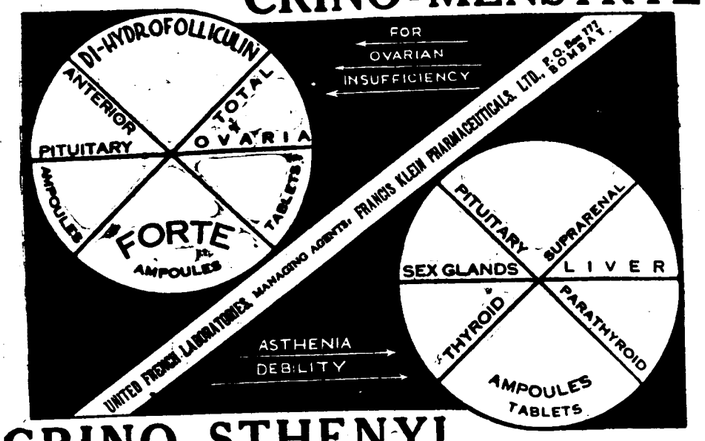

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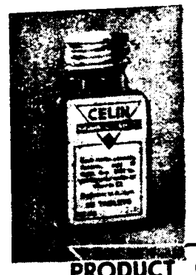

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EDITED AND PUBLISHED BY DR. A. VISWANATHAN, L.M.P., AT 131, CORAL MERCHANT STREET, MADRAS, ON BEHALF OF THE ALL-INDIA MEDICAL LICENTIATES' ASSOCIATION.
PRINTED BY MR. A. RANGASWAMY, AT THE PROGRESSIVE PRINTERS, NO. 2/17 CORAL MERCHANT STREET, G. T., MADRAS.

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